The Builder.

Vol. XVI.—No. 811.

The Book of Farm Implements.

LET a little while and we shall see vast changes in the mode of cultivating land, and vast advantages resulting in consequence. It has long been our confident belief that an era of agricultural development, as wonderful as that which the present age has already witnessed in manufactures, is not only within the bounds of possibility, but on the eve of advent,—that the day is at hand when models of the farm-buildings now in use, and the agricultural implements of the past and present time, will be put away, as curiosities, beside the distaff and the spinning-wheel; and when even the steam-plough, as it yet exists, will be regarded as a rude and primitive instrument by comparison with others still to be invented. It is interesting, therefore, in this belief, to witness just such beginnings of so grand an era, in agriculture, as were the first spinning and weaving machines in "manufacture," or the first steam-engines; or the locomotive with legs, like a horse, in the railway system.

These ideas, to which we have heretofore given expression, are recalled, at the present moment, by the issue of a goodly volume of descriptive matter, with not far short of 1,000 engraved illustrations, of all sorts of farm implements and machines.*

Here are steam-ploughs, trench, and subsoil ploughs, and ploughs of all kinds, from that most primitive manual implement still used in the Isle of Skye, to the most recent modification of steam-ploughing machines. Here are steam cultivators, grubbers, clod crushers, scarifiers, and weed extirpaters; manure distributors, and sowing drills; corn-reaping machines, and haymaking machines; barn machines, including all sorts of thrashing, winnowing, corn cleaning, hummelling, and corn-weighing machines; corn-bruisers, corn-mills, chaff-cutters, and hay-knives; linseed mills, oil-cake breakers, turnip slicers, and root pulpers; boiling and steaming apparatus; dairy machines, and cheese presses. We had almost felt inclined to look for that grand American beau-ideal of machines into which live pigs are driven, and out of which they are spun by way of sausages. As regards the moving powers of the farm, we have here illustrations of steam power and engines, fixed and locomotive, with and without endless railways; water-power, wheels, and turbines; wind-power, and horse-power. And, finally, we have instructions for the arrangement of machines in the farm, on ground-floor, upper floor, and elsewhere, and of small machines with their moving power.

Having just given expression to a sanguine hope for the future of the agricultural branch of manufactures,—the manfacture of corn and beef,—let us now indicate some of those hinderances to progress, in this direction, which have hitherto adversely operated on the improvement of those implements and machines by help of which these very essential articles of manufacture are turned out. This we may do in the words of the work just noticed:—

"The present age is perhaps the most remarkable that time has produced, for the perfection of almost every kind of machine or tool required in the various departments of art and of manufactures. In that most important of all arts—the production of the raw material of human food—something like a corresponding progress has been effected in its machinery and tools, though certainly not to the same degree of perfection as those employed in most of our manufactures, whether they be from the animal, vegetable, metallic, or mineral productions. Various causes exist to prevent, or at least retard, an equal degree of perfection being arrived at in agricultural machinery, amongst which may be noticed one pervading circumstance, that affects more or less almost every machine or implement employed. This circumstance is, that all the important operations of the farm are performed in *seasons* occupying comparatively short periods of time; and should the artisan be endeavouring to produce any new or important machine, he can only make trial of it in the proper season. The imperfection of human perception is too well known to leave us in surprise at the first attempt of any improvement turning out more or less a failure. The artisan, therefore, will, in all probability, find that his project requires amendment; and before that can be effected, the season is past in which a second trial could be made; and, consequently, it must be postponed for a year, in the course of which many circumstances may occur to cause its being forgotten or abandoned. Impediments of this kind do not occur to the inventor or improver of manufacturing machinery, where constant daily opportunities occur to test the successive steps of his invention.

One other cause, and of a general kind, exists, to supersede the necessity, or even the propriety, of employing machinery of such high and delicate finish as we see in the machines of all in-door manufactures: this is the irregularity of the medin on which agricultural machinery is employed, and the numerous changes produced on these media—the soils and produce—by vicissitudes of weather and other causes, which not only affect the operation, but also the existence of many of these machines. From this cause, with its train of incidents, it may be inferred that agricultural machinery and tools must of necessity be of simple construction, which shall embrace nothing but the essentials of usefulness; that they have sufficient strength for their intended purpose, and free of any undue weight; that there should be no redundancy nor misapplication of materials; that all materials employed should be of the best quality, and the workmanship plain and sound—which properties, it must be admitted, are of greater importance to agricultural machinery in general, than the minute delicacy of construction and finish observable in many of those almost intellectual tools employed in some of the other arts and manufactures.

Although, therefore, agricultural machines in general do not require a high mechanical finish, yet there are amongst them those which are based on principles implying a knowledge and application of science, as well as mechanical skill in their construction."

Of the more elaborate and complicated implements by means of which not unsuccessful attempts are already being made to aid manual labour in the farm and the field, we shall not for the present have much to say; but we may take a passing glance at a few of the more prominent of these; mean time remarking that, at a period when handsome premiums are being offered by agriculturists in England, and gained by inventors from various parts of the world, for the more important and most sweeping of these aids to manual labour and promoters of agricultural prosperity; it is painful to note that, at the very same time, in Ireland, riots are occurring in consequence of the noble endeavour now being made to improve that fine country, and to benefit its semi-barbarous rural population by the introduction of a few of the less novel and now (with our own lower orders of agriculturists) well received, and admittedly most useful and advantageous, implements of the farm, such as reaping-machines, and even scythes, which have of late been destroyed by the rabble of Irish field labourers, or sickle-reapers, as imaginary evil-doers and rivals only to be put down by brute force.

"Steam culture" and "steam ploughing" are terms of different import. Steam culture may include a variety of implements: steam ploughing implies steam culture by means of one specific implement alone,—namely, the plough. The whole question of steam culture is in a transition state, and the experience of a few years may show that steam ploughing,—that is, applying the power of steam to drag the ordinary plough,—is a mere necessity of a particular implement, and that it will be more economical to adapt a new implement to the new power; while, on the other hand, experience may tend to fix the plough more firmly in the estimation of practical men, and to prove that what is really wanted is the application of a new power to the old implement. The general adoption of deep culture would appear to necessitate the adoption of steam-power.

The most promising inventions in steam-ploughing are considered, by the authors of the "Book of Farm Implements and Machines," to be those of the Marquis of Tweeddale and of Mr. John Fowler, C.E.* On the Tweeddale plan, the land, before being worked with steam power, is freed from stones and pulverized. It is then ever after fit for ploughing by steam. The wheeled steam-plough, or plough-carriage, on this plan, is preferred to the steam-spade, or the rotatory digger, or cutter of the soil. Fowler's is also a steam-plough, but with engine, windlass, and anchor. Rotatory cultivators are a class of projects in which the engine passes over the land, working rotary cultivators or cutters—these forming part of the machine. The best known of this class are those of Usher and Romaine. The latter machine is the one aided by funds voted by the Canadian legislature, which is "taking the lead in promoting cultivation by steam." The first steam-plough, in point of date, was Heathcoat's, introduced in 1833, for the reclamation chiefly of bogs and mosses. Lord Willoughby D'Eresby's steam-plough must not be omitted in our brief allusion to these rudimental machines of the future. The D'Eresby plough somewhat resembles the Heathcoat in principle, both having engine-and-pully mechanism, and both being on the plough principle. The grubber or cultivator is a comparatively recent implement, based on the brake harrow as its more ancient prototype. Many improvements in the old grubber were made in Scotland. To this form of implement we allude in relation to steam culture, not because it has as yet been applied to such culture, but because it would appear to be capable of being combined with the rotatory principle, if that principle be not, in fact, a sort of modification of the grubber itself.

Reaping-machines are another promising and important new implement of the farm, but of older date than steam cultivating machinery. Very early in the present century, we hear of Boyce's patent reaping-machine, based on the revolving-cutter principle, the revolver being armed with short scythes; also of Plunket's, with circular cutters, saw-toothed, like a sickle. Neither had gathering apparatus. Gladstone's, about 1806, excited more interest. It had circular smooth-edged cutters, and held the straw till cut, as well as gathered it after

* The Book of Farm Implements and Machines. By James Slight and R. Scott Burn, Engineers. Edited by Henry Stephens, F.R.S.E. Blackwood and Sons, Edinburgh and London. 1858.

* Mr. Fowler's steam-plough has just been awarded, at Chester, a prize of 500*l*. The judges, in their report, state that Mr. Fowler's machine is able to turn over the soil in an efficient manner at a saving, as compared with horse labour, of, on light land, 2½ to 25 per cent.; on heavy land, 25 to 30 per cent.; and in trenching, 80 to 85 per cent.; while the soil in all cases is left in a far more desirable condition, and better adapted for all the purposes of husbandry.

wards. Being on wheels, it was drawn by horses. Many others followed, including Smith of Deanston's, Bell's, and Hussey's and M'Cormick's, in which a series of sloping or angular blades cut the crop, but of these later and more matured machines we have already spoken in the *Builder*.

We must now revert to our chief purpose in reference to the "Book of Farm Implements and Machines;" which was, to base on its very useful pages some few observations on the construction and strength of farm implements and structures, taking a few simple illustrations merely for our text.

To the farmer who is to use, and to the mechanic who is to construct, the varied machines, implements, and structures required in the processes of modern husbandry, the importance of a knowledge of the principles which regulate the construction and arrangement of their component parts cannot be over urged; and the book before us cannot be too highly commended.

"In many instances," as the authors of the work under notice observe, "cumbrous strength is given to parts which a knowledge of the strains to which they were subjected, and the pressure which they were calculated to bear, would have at once shown to have been unnecessary. Take, for instance, the arrangement of a piece of framework—as a roof, or a gate, or the framing of a machine. A workman ignorant of the strains or pressures to which the materials he employs is subject, and of the methods by which the direction and amount of these strains or pressures are ascertained, uses a heavy part to perform an office which a much lighter one would have effected.

Again, a mechanic desirous to make a beam or shaft to do double the work, or to sustain twice the pressure, of a given pattern or model, would naturally double the dimensions, unaware of the fact that he would thus obtain a much greater strength than he anticipated. A knowledge of the law that the transverse strength of square beams of equal length is as the cube of their depth; of rectangular beams, as the square of their depth, multiplied by their breadth, and divided by their length; and of round beams, as the cube of their diameter, would have enabled him to have avoided this mistake.

Again, a workman ignorant of the increase of area with increase of diameter, in desiring to make a pipe to convey twice as much water as another given pipe, would be apt to make the new pipe twice the diameter of the given one, finding, as a somewhat unexpected result, that the area of the pipe would be four times that of the model, instead of twice, as anticipated."

We see exemplifications of this ignorance of mechanical principles every day around us, and this in connection with even the simplest parts of implements. Thus, the handles of a hay-fork and of a turnip-hoe will be made exactly of the same form, although the strain to which the two implements are subjected is differently situated. Again, we find that instruments of the same class have differently formed handles—one specimen tapering from the working part outwards, another with its taper the reverse of this. Both cannot be right; and a brief consideration of the strain to which the instrument is subjected would at once show the part which required to be made strongest and that which had to be made lightest.

The same remark applies to beams or parts of implements which have to sustain cross-pressures. A mechanic uninitiated in the principles which denote the best form of beams under such circumstances, would naturally make a beam of the same size throughout; while a knowledge of them would enable him to obtain a much lighter, and, at the same time, an equally strong beam, by giving it a certain amount of taper—proceeding from the centre to the extremities, as in the case of rungs or rounds of ladders, and of swing-trees or whipple-trees, or as in the teeth of hay-rakes.

Even in the construction of so simple an instrument as the *flail*, the importance of a knowledge of mechanical principles, and of *the habit of investigating the effect* of any proposed form or arrangement of parts, is exemplified. In forming this instrument, a very general practice prevails, which is to have the beater club-shaped, or thickest at the extremity,—intended, no doubt, to give better effect to the blows. If we trace, however, the effects of this arrangement, we see that the additional weight is not only unnecessary, but lessens the general effect of the instrument. When every point in the length of the beater strikes the floor with an equal amount of momentum or force, the greatest amount of useful effect will be obtained. In a beater of uniform shape, there will be a constant tendency to a larger amount of momentum at the outer point or extremity—arising from its greater velocity during the gyration of the instrument as compared with the other parts of its length. Now if the extremity be made heavier, this tendency will be augmented, the greater velocity being increased by the greater weight: an undue preponderance will therefore be given to the end of the beater, thereby lessening the general effect upon the work under performance. These considerations point to the flail with the outer extremity of its beater thinner than the other parts of it, as being the form more consonant with the laws of dynamics.

Few, comparatively, of our mechanics are acquainted with the fact that if the broad flange of a cast-iron beam be placed upwards, it will break with a weight a little more than one-third of that which it will sustain when placed with the flange downwards. Such considerations might be extended so as to afford suggestions of practical utility.

"'Of all simple geometrical figures,' says Dr. Moseley 'the triangle is the only one which cannot alter its form without at the same time altering the dimensions of its sides, and which cannot therefore yield, except by separating at its angles, or tearing its sides asunder. Hence, therefore, a triangle whose joints cannot separate, and whose sides are of sufficient strength, is perfectly rigid. And this can be asserted of no other plane figure whatever. Thus a parallelogram may have sides of infinite strength, and no force may be sufficient to tear its joints asunder, and yet it may be made to alter its form by the action of the slightest force impressed upon it. And this is true, in greater or less degree, of all other four-sided figures and polygons.' But the practical utility of these deductions may yet be obscure to the thoroughly practical man. 'It is for these reasons,' continues the author we have quoted, 'that, in all framing, care is taken to combine all the parts as far as possible in triangles, which, being once done, we know that the rigidity of the system may be insured by giving the requisite strength to the timbers and joints.'"

This practical deduction from the mathematical enunciation just given is of the highest importance in mechanical construction. Let us exemplify it in connection with field-gates—a part of our agricultural economy than which none points out so broadly the ignorance of our artisans in those important branches of their education—the elementary truths of geometry and mechanics. A field-gate may be described as a rectangular frame. No matter what may be the strength of its parts or the extent of its upfillings, if they are placed at right angles to each other; it is a very weak form, and liable to change with comparatively slight pressure; but a gate in the form of a triangle would, if the joints and the materials were strong enough, be perfectly immutable. This, however, would be an unserviceable shape. How, then, can the principle of the triangle be applied? Simply thus:—

"If we take a rectangular frame, so essential to a field-gate, and apply a bar in the position of the diagonal of the parallelogram, we immediately convert the original rectangular figure into two triangles, applied to each other by their hypothen use, and which give us the true elements of a properly constructed gate, all the other parts being subordinate to these, and adapted solely to the practical purposes of the gate as a defence, or for ornament."

Nor is the proposition of less importance in the minor constructions of the farm,—even in such a simple matter as forming a firm connection between the head and the handle of a hay-rake,—for its great utility is observable. As many are aware, the simplest method adopted for this purpose is to insert the extremity of the shaft or helve in the centre of the head by a simple tenon. Little consideration is required to show the weakness of this plan.

"A mechanic acquainted with the principle of stability would know at once that the best method to secure a firm connection between the helve and the head of a hay-rake would be by fixing two pieces of perfectly straight light iron rod at one end to the sides of the helve by screw-nails, and at the other by the same means to the head of the rake, at a point equidistant from its centre."

To have said so much of two such simple matters as the construction of a field-gate and a hay-rake may appear trifling; but we have done so in order to point out the importance of the principle on which depends the strengthening and supporting of the parts of *any* form of framework, whether of wood or iron, by the aid of diagonal stays or braces. This single member, in all constructions, is of such importance, that no opportunity should be lost in impressing the principle on the mind of all whose business or interest lies in those departments of mechanics where its application is required. It is no exaggeration to affirm that the knowledge of this principle alone would have effected a large saving of material in many extensive farms. It is somewhat curious to trace in many of the works of agricultural mechanics the incipient knowledge of the usefulness of this principle of stability in the attempts to avail themselves of the diagonal bar. In these we see it applied—with that uncertainty of purpose marking a doubtful and hesitating knowledge of the subject—in all possible positions save the true one, namely,—extending from an angle to its opposite.

"Tie with iron and strut with wood" is an axiom of universal application in mechanical construction. Ignorance of this axiom has frequently resulted in great waste of material, by using heavy and costly parts, which lighter and cheaper would have effected. Let us indicate this briefly as exemplified in the construction of a gate.

"In field-gates constructed entirely of wood, the diagonal should invariably be applied as a strut; that is to say, it should *rise* from the *foot* of the heel-post, and terminate at the *top* of the head-post. Placed in this position, the diagonal supports the head or swinging end of the gate, by its resistance to compression—a duty which, from the *area* of its cross section being considerable, and hence capable of resisting lateral flexure, it is well adapted to perform; while, at the same time, the above sectional property gives it a broad terminal resistance, where it abuts upon the angles of the external frame. The same diagonal bar, if applied in the opposite position, and performing the duty of a tie or stay, its great sectional area would avail but little; for, though woody fibre is capable of resisting very considerable tension—larch wood having, with equal sectional areas, a power of resistance to tension to about one-quarter that of malleable iron of medium quality,—and though this wooden tie might be found to possess, in its aggregate section, a cohesive force greatly beyond that of an iron bar applied in the same position—for the wooden bar would have a sectional area at least twelve times greater than could be requisite for an iron tie, thus yielding an aggregate force double of the iron,—yet as the wooden *tie* must depend for its connection in the structure upon nails or bolts only, its ultimate power of resistance to tension depends not on its own sectional area, but on that of the nails or bolts by which it is fastened; and these, again, may be very greatly reduced by the rending of the extremities of the wooden tie."

The advantages of iron as a tie, and its disadvantages as a strut, are just the converse of the foregoing.

It is clear, however, that valuable as this mechanical maxim is,—"tie with iron and strut with wood,"—something more must be known by the practical man before he can avail himself of it. For however obvious in some constructions the parts are which act as *ties*, and those which act as *struts*; on the other hand there are some constructions in which an inexperienced mechanic would have some difficulty to distinguish the one from the other. Hence arises the utility of a knowledge of the mechanical principles of carpentry or framework, and which further enables the direction and amount of pressure exercised upon the

various parts of a framework to be ascertained.

The illustrations of useful general principles in the formation of farm implements and structures having happened to hinge a good deal upon gates, we shall conclude the present rather desultory article, as constituting a kind of sequel to previous disquisitions, in our columns, on the plan and construction of farm buildings, by a few further remarks and quotations on the subject of farm-gate construction.

Hitherto, very little attention has been paid to principle in the construction of field gates. Ninety-nine out of a hundred are glaringly defective as pieces of constructive carpentry; and, not unfrequently, constructive defects appear in gates of much higher pretensions.

"The essentials of a field-gate, whether of wood or iron, are a rectangular frame, consisting of the heel and head posts, and a top and bottom bar or rail, which four parts, properly connected at the angles, are rendered of an unchangeable figure by the application of one or more diagonal bars, and these diagonals should in *no case* be applied short of the whole length between any two of the opposite angles. The upfillings, whether of rails or otherwise, as may be desired, to attain any particular object, are mere accessories, and not in any way tending to the stability or durability of the fabric.

In treating of the practical construction of field gates, it is perhaps unnecessary to dwell upon the strains that occur in the individual horizontal bars; because, if the principles referred to above are attended to, all cross strains in the principal joinings are avoided; and except when any extraneous force is applied, the strains are resolved by construction into those of direct compression or of tension.

The practical insertion of the diagonal is also of some importance."

The principle of trussing has been successfully introduced into the wooden field gate by Sir John Orde, of Kilmory, in Argyllshire; but the authors just quoted are doubtful of its utility in the common field gate, from a suspected liability to lay hold of the harness of horses in passing, or entangle the feet of colts.

A gate constructed by Mr. C. Miles, of London, architect, is illustrated on page 58 of the work under notice, as one which seems well adapted for fields.

"It consists of both iron and wood. It has a strong cast-iron heel-post, which is round, tapering to the top, and is batted into a large stone in the ground. A collar of iron embraces and revolves round upon a projecting bead encircling the post. To one side of this collar is attached a socket of considerable depth, and of a form to receive into it the upper rail of the gate, which, when properly seated, the socket prevents from drooping at the head. The under-rail style is, in every respect, fitted up in the same manner as the upper one. The head-style is light, and completes the framing. The filling-up of the frame is left to choice, either in iron or wood."

In the construction of malleable-iron gates, we as frequently find malformations as in those of wood, such as placing all the bars on edge except the heel and head-post, misplacing the diagonal, if single, and not unfrequently applying bars variously formed in curves and fanciful figures, to serve the purpose of the diagonals.

"The field-gate maker should be instructed to hold steadily in view, that there is but *one position* and form for that member of the structure that can be fully efficient, and this is, the straight bar extending from the upper angle at the heel to its opposite angle at the head-post; and, if the materials of the gate are light, to apply an antagonist diagonal crossing the first. In framing the gate, also, the top and bottom bars should be set flatways, to enable the structure to resist lateral strain from animals rubbing or pushing against it."

One of the latest improvements in iron field-gates is the introduction of angle-iron,—

"In the application of the angle-iron to the construction of gates, the fabric acquires the rigidity of a massive wooden gate, with all the tenacity and strength of the iron, while its weight is little more than that of wood."

For the improvement of agriculture, and to obtain the advantages to all that will follow, architects must co-operate. The highest knowledge of every kind must be applied to the development and perfecting of the various constituents which go to the formation of a complete farm.

MIDDLE TEMPLE LIBRARY.

On Monday last, the first stone of a new library, for the use of the Society of the Middle Temple, was laid by Sir Fortunatus Dwarris, in presence of a number of literary and artistic friends, with many ladies. The legal element was scarcely so dominant as it should have been on such an occasion, in consequence of the time of year. When the party first assembled in the hall of the society, of which we engraved a view in our last volume,* Sir Fortunatus gave some particulars of the structure, and some notices connected with the early history of the Temple-gardens, and then led the way to the *locus in quo*, an addition to the gardens which has been purchased for the site of the new building. The fountain for which we pleaded when the new library was first talked about is therefore saved. The stone, which was temporarily inscribed—

"*Biblioth. Med. Temp.*
Hujusce Ædificii caput anguli lapis positus fuit
XVI. *cal. Aug. anno Dom.* MDCCCLVIII.
F. W. L. Dwarris,
Equite, Thesaurario.
H. R. Abraham,
Archi.,"—

having been lowered to its bed, was duly levelled and laid, and then Sir Fortunatus made an appropriate and elegant address, wherein, without tiring them, as he said, with a "sermon on the stone, and prate on everything," he dwelt on the value of a law library (containing the laws of all countries as they passed), especially as a "progressometer," and showed that it had the advantage of not merely recording the advances in knowledge, but the improvement in morals of nations. An ample luncheon, in an apartment adjoining the Middle Temple Hall, was then discussed, whereat various toasts were spoken to, including the "Founder of the Library," "The Architect," "The Inner Temple," proposed by "Master" Bagshawe, and responded to by Mr. Adolphus; the chairman of the day, proposed by Mr. Pettigrew; and several others. The party then adjourned to the Temple Church, and were edified by an exposition of its architectural and antiquarian beauties and peculiarities, by obliging archæologists; and further delighted by the organist's skill on the grand and far-famed instrument of the church. The colouring of the church, once thought garish, is now toned down to great quietness, and the whole is much more dirty and smoky than is desirable.

The extreme dimensions externally of the new building for the library will be 117 feet long, 55 feet wide, and 110 feet in height. At the south end is an oriel, and at the north-east angle an octangular tower, to contain the staircase to the library, which will be approached by a terrace, in continuation of Garden-court. The library itself will be 96 feet long in the clear, 42 feet wide, and 70 feet high to the apex of the open traceried roof, lighted by seven arched tracery windows on each side, of sufficient elevation from its floor to allow of a continuous range of bookcases and gallery, and also by a large, north window, and an oriel looking over the river, from which all the bridges, Somerset House, and the Houses of Parliament will be conspicuous. The roof will be of open hammer-beam construction, with eight principals of open tracery, winged figures terminating the hammer-beams. Below the library will be two stories, consisting of sets of chambers, constructed fire-proof, for the Society of the Middle Temple. The style of the building will be, we believe, sixteenth-century Gothic. The architect, as we have said, is Mr. H. R. Abraham: the contractor is Mr. Myers; the material, Bath stone.

THE LIONS FOR THE NELSON MONUMENT.

Some little stir has been made on this subject within the last few days, in consequence of the exhibition by Mr. Milnes, the sculptor, of four small models of lions intended by him for the base of the Nelson Column in Trafalgar-square, and the information that the Government have intrusted the work to Sir Edwin Landseer! Other sculptors, it appears, had made designs,—we hear of Mr. Lough, Mr. Bell, and Mr. Carew; and the *Morning Advertiser* states that to the first-named of these, Mr. Lough, the work was promised by the late Chief Commissioner of Works, so soon as a grant was obtained. Mr. Milnes has given to his four lions a varied character, naming them War, Peace, Vigilance, and Suspicion, and shows in them considerable skill and acquaintance with the animal, although, we must confess, we feel no great anxiety to see them produced in granite, 20 feet long and 9 feet high, at a cost of 6,000*l.*—his estimate, and on which, he says, the late grant of that sum by the House of Commons was obtained. They would doubtless be sufficiently correct, and answer the purpose very well; but we do not find in them that vigour, grandeur, or beauty, that would make us desire the opportunity of seeing them often.

To the present appropriation of the commission there are unquestionably very great objections. Sir Edwin Landseer, eminent as he is as a *painter* of animals, has no power whatever in plastic art, and will have to work by the hands of others, and these probably, if there be any *esprit de corps* amongst sculptors, inferior ones. The affair can only be looked upon as adding another to the list of affronts which British sculptors owe to the powers that be. Sculpture needs Government aid much more than painting. Sir Edwin Landseer has more commissions on hand than he will ever be able to execute: some of our most eminent sculptors can scarcely get an opportunity to show their skill in a fitting manner. The Sculptors' Institute and the friends of plastic art generally should at any rate give expression to their opinions on the subject, though there may be little chance of altering this unwise and unjust arrangement.

A RAMBLE AMONGST VILLAGE CHURCHES IN WORCESTERSHIRE.

It may be predicated with confidence of our vast and stately Cathedrals—of the graceful and picturesque remains of our Monastic establishments, that they will never fail to employ the pencil of the artist and the pen of the descriptive writer, nor cease to be the subjects of conscientious study to the professional architect. This distinction will ever be secured to the august diocesan structure, not less by its material splendour, than by the important events which shed a halo of historic interest around its venerable walls;—to the abbey and the priory, by the lovely and enchanting scenery from amidst which they rear up their attractive and elegant forms. But though these memorials of the vanished glory of the past, and of the religious zeal of our forefathers have, undoubtedly, a claim to all our love and reverence, it by no means follows that they should be allowed to monopolise our attention, and that the modest village church should be neglected, as if it were necessarily destitute of any portion of the interest which attaches, in an eminent degree, to the grander and loftier creations of art. On the contrary, it will not unfrequently be found that, under the most unpromising exterior, are concealed treasures, minute in scale, but full of beauty, and fearing no comparison with the fuller and ampler proportions of the prouder Cathedral. A close examination of village churches is instructive also, as furnishing the means of testing the depth and extent of the influence exercised by the architecture of the mother church—a mother church in more senses than one—upon these humbler efforts; this influence manifesting itself diversely, and producing different effects, as it happened to operate upon a mind imbued with real taste and feeling for the beauty of art, when it may be traced in thoughtful and intelligent selection and adaptation; on the other hand, revealing itself in servile and undiscerning imitation of some feature quite consistent with the character of the stately Cathedral, but misplaced, and almost ludicrous, when dwarfed to the contracted dimensions of an unpretending and unostentatious edifice.

It was in hope of verifying in one or more particulars the truth of these remarks, that I some weeks ago undertook that examination of a group of churches, of which the result is contained in the following descriptions;—the localities visited being all easily, expeditiously, and cheaply accessible from Worcester, by means of our modern system of locomotion.

Chaddesley Corbett. — Three miles' pleasant walking from the *Hartlebury* station brought me to the first object of my search, the church of *Chaddesley Corbett*, than which, it may be asserted, few buildings, within limits equally restricted, contain details of greater interest, and as regards some, of more suggestive teaching than may be deduced from them. Of the three longitudinal divisions from the west door to the chancel arch, all of

* See page 462.

nearly equal height, the central one is separated from the lateral ones, which are unusually narrow, on the south side, by two well-proportioned columns, which, with their responds, carry three pointed arches, the apex of each reaching within a very short distance of the wall-plate; on the north side, by two columns and a pier composed of a cube having half cylinders on the faces between the arches, which, with their responds, support three round arches, and a fourth, nearest to the west, pointed. These arches have not that obscure point, sometimes scarcely perceptible, which we often find united with the elements of Norman work, but are well formed, less obtuse than many Early English ones, and such as could not be regarded as ungraceful in any style. All, both round and pointed, consist of two rectangular-edged orders, the arches on the south side having the addition of a plain concentric hood-mould. The caps, exceedingly short, present no other variety than that the cushions into which they are channelled are in some instances enriched on the upper end with simple flowered designs, and rendered more graceful by the incurvated outline given to them. The bases, where unaltered, present the common Norman section of a smaller tore above one of larger diameter, with vertical-faced member beneath, raised upon a square plinth. As to the abacus, it is to be remarked that the profile making the smallest possible departure from the square block, a plain chamfer on the under side, and usually regarded as the earliest form of this member, is found in union with the pointed arches; whilst the additional sunk channel between the vertical face and the slope, which would appear an evidence of progress, is the accompaniment of the round arch. This anomaly, if such it be, may be useful in teaching that slight varieties in detail are not in all cases to be implicitly relied on as certain indications of differences of date,—a lesson we shall find, when we come to the examination of the exterior, strongly enforced by an example of this particular member still more in advance of the general architectural features with which it is combined. The roof of the church being modern throughout, I shall in this description make no further allusion to it, contenting myself with directing attention to the very curious method in which Welch vaulting-cells rise up into the lean-to roof of the north aisle, with modern windows opened at the lower end.

Three windows in the wall of the south aisle, each of three pointed cinque-foliated lights under an arch formed of two almost imperceptible curves meeting at the vertex to which the monials are prolonged;—a small square-headed one of two similar lights set high up in the wall above a pointed doorway of the original construction (now walled up);—a three-light one in the east, and a two-light one in the west wall under circular segments, all set back in deeply splayed apertures, are insertions of Decorated character, certainly later than the chancel windows, which I shall presently describe.

The chancel arch is but poor; a pointed one of two plain chamfered orders dying off as they descend upon the uprights of the archway. The chancel, narrower than the nave, is flanked by an aisle to the north, separated by an octangular shaft, which, with the responds, bears two pointed arches of one plain-chamfered and one hollow-chamfered order. In the plain moulded cap and base there is no very distinctive character; but the scroll-mould in the octagonal abacus and in the necking of the shaft, sufficiently bespeaks a Decorated origin. The responds are relics of an earlier construction, coinciding in style with the Early English work which is prevalent in the north chancel aisle; as, for instance, in the three pairs of coupled lancets in the side walls, under equilateral arches, and in the triplet of lancets under a circular segment at the east extremity, all recessed in deep splay with cavernous hood over head. One never witnesses the beautiful results of these simple combinations without an increased feeling of admiration for the value and beauty of our Early English style.

The three windows on the south side of the chancel are all three-light ones under an enclosing arch of slightly acute form, and surmounted by very prominent dripstones, springing from heads or from tufts of foliage: but here the resemblance ends. The simplest design of tracery results from surmounting three ogee-arched lights (the central one tallest) with two inverted trefoils, carrying a third, which fills up the point of the inclosing arch, trefoliating each foil of the trefoils, cinqfoliating the central light, and trefoliating the outside ones. Another design is produced by the substitution of three multifoils with the foils alternately round and angular, in the place of the simple trefoils, giving to the subdivisions narrow, acutely-pointed heads, each taking under it a trefoil tangent to a trefoil-shaped arch below. In the third window the middle light is low, obtuse-headed, and quatrefoliated; the lateral ones tall ogees, including a trefoil (each foil trefoliated) resting upon a trefoil arch; the space between the subdivisions and the inclosing arch being filled with a circle of which the tracery combines a small concentric circle, set round with three curvilinear triangles, all connected by flowing curves and every interstitial space trefoliated. The great east window, filling up nearly the entire breadth of the wall, is composed of five ogee lights, treated as in the examples last described: above these is introduced a row of the network tracery pattern, and the head of the window is filled with a circle, into which are crowded four of the multifoils before spoken of, whilst one of these figures is external to the circle on each side. The designs of all these windows are ramified and traced out by a bold filletted roll, perfectly continuous, having neither base nor capital, and the depth and satisfactory aspect of the window openings are increased by the addition of two or three external orders of the same section.

Whatever impression may be produced by these traceried designs, we must allow, if susceptible of deriving pleasure from the great charm of all efforts of art—simplicity, that effect is here attained by a total sacrifice of that essential quality. How vast the interval which separates these far-fetched, fantastic, perplexed, and capricious forms from the unstudied and unsought elegance of pure geometrical combinations, can only be measured by one whose taste has been nurtured by contemplation and study of that chaste and unaffected system of fenestration which constitutes the glory and magical charm of *Saint Urban*, at *Troyes*; the *Holy Chapel*, at *Paris*; the choirs of *Tours* and *Evreux*; parts of *Bourges*, of *Bayeux*, and of *Amiens*; of the west front of *Reims*, and, not to multiply examples, of that inexhaustible storehouse of geometrical detail and composition, *St. Ouen*, of *Rouen*. So far as the writer's own observation has extended, he is led to the conclusion that Decorated in its purity survived but for a very short time its transplantation into our own country. With the introduction of the arch of contrary flexures, crept in the germ of corruption and decay;—all fixed principle of beauty was cast loose;—a career opened to extravagance, whimsicality, and caprice;—until at length the ogee arch, invading every province of architecture, gained complete supremacy, and signalised its triumph by the invention of that monotonous, impure, and inelegant form of tracery known as "net-work." That this commonplace, expressionless pattern of tracery, if it be worthy the name, should have met with so ready and wide an adoption by our English builders, must ever remain a subject of surprise, and a lasting imputation upon their taste, in flagrant contrast with the clearer perceptions of the beautiful in art which guided their continental neighbours, who having once recognised the richness of combination disclosed in the pure geometrical element—a combination susceptible of almost boundless modification;—remained constant to this supreme, vital principle, for a space not far short of two centuries. The present is not a fitting occasion to pursue this subject further; but, inasmuch as it appears not improbable that our attempts at the revival of Mediæval architecture may ultimately settle down in an adoption of the so-called Middle-Pointed, it can never be out of place to urge a solicitous and untiring study of the grand creations of this style in the country which possesses the earliest and the only perfect exemplifications of its beauties, to reiterate the counsel to seek inspiration at the very fountain-head, without which preliminary and hitherto sadly neglected preparation no reasonable hope can be entertained of producing works reflecting in any degree the spirit, or character, or beauty of their great exemplars.*

The priest's door, on the south side of the chancel, presents the singularity of a segmental circular head inside, and an ogee-formed summit on the exterior; the filleted round string-course on which the windows rest being inflected in passing over this door. The three sedilia, below the easternmost window on the same side, are placed within ogee-headed recesses with continuous mouldings, two double filleted rolls, and surmounted by canopies of the same shape, crocketed and finialled, and springing from one mitred, one crowned, and two female heads, somewhat too heavy and projecting for their position. The piscina still farther to the east, and the credence on the north side, are similar in form and detail, being only a little more enriched by the trefoliation of the arch, and flanking the recess with slender square shafts, crowned with crocketed pinnacles.

At the entrance of the chancel, but within the limits of the nave, lies a sepulchral slab of the fifteenth century, with brasses of a knight in complete plate armour, and of his lady—a memorial, as the border legend informs us, of "*Thome Eforest Parcary de Dunclent Parke et Margarete, uxoris ejus et omnium puerorum suorum quorum animabus*," &c. The "*omnes pueri*" were certainly a goodly progeny, if their number be accurately represented by the five male figures on a small brass tablet at the feet of the knight, and the six female figures at the feet of the lady. At the east end of the chancel aisle is a monument of far higher interest and antiquity. This consists of two recumbent male effigies in stone; the one, a cross-legged knight, attired in chain-mail, girt with the long Norman sword, bearing the Norman shield, pointed at the lower extremity, and wearing the close-fitting coif. The companion effigy is that of a monk. For what reason the warrior and the priest have been handed down in union thus indissoluble, it were, perhaps, vain now to inquire; unless we are contented with the supposition, that one of two members of the same family embraced the profession of arms, the other that of the church. The age of this monument may be safely fixed in the space included between 1175 and 1200, the earlier date probably the more accurate one.

On the north side of the nave, in the same block with the central column itself, is a massive stone font, completely overlaid with sculpture. The circular bowl is first surrounded below the external rim with a deep band of one of the varieties of the guilloched pattern: below this is one of those symbolical *dracontial* representations of the Evil Spirit (four times repeated), which abound in works of every description of the eleventh and twelfth centuries. A thick cabled tore separates the bowl from the base, the slightly convex surface of which is covered with an intricate net-work design. Had this interesting relic stood in an isolated situation, I should not have hesitated to attribute to it a date coinciding with that of the Pointed arches of the south side of the nave; but, from its relative position to the columns carrying the round arches, it is impossible not to regard it as coeval with the earlier portion of the church: and hence we may derive the teaching that an exuberance of ornament, even of very fair execution, may co-exist with other indications of a remoter period.

The higher antiquity of the north-west side of the church in comparison with other portions, may, I think, be inferred from the masonry, the inclination of the wall from the perpendicular, and the existence of a very charming little round-arched doorway of one square-edged order, supported by an attached shaft on each side, and continuous plain-chamfered sub-arch, surmounted by a dripstone chamfered on both sides, so as to become semi-hexagonal. Both the face and the under side of the first order are enriched with the chevron, wrought in that excessively low relief which has obtained for this description of carving the denomination of "surface ornament," and which, by some antiquaries, is regarded as carrying us back to an era prior to the Conquest: and yet in combination with this rude decoration, and with all other indications of very early Norman work, we find an abacus of more complex mouldings than would generally be attributed to such a date. I by no means pretend to account for these exceptional cases, where one member of the architecture appears to have got so much the start of the others, but I think they are interesting subjects of investigation, and, if met with in great numbers, must somewhat shake our confidence in the practice of inferring from mere section of mouldings the comparative antiquity of an edifice.

The windows in this north-west wall are certainly the *earliest* insertions of the Decorated period; simply two pointed trefoliated lights taking a quatrefoil between themselves and the external arch,—all worked with a hollow-chamfered fillet. In one instance the quatrefoil is replaced by one of the varieties of the *fleur-de-lis*, a figure in the head of windows we so constantly find in the last phase of Pointed architecture in France. I look upon this as a singular and

* Heretical as the opinion will be regarded by many, I have no hesitation in expressing my conviction that any—the slightest departure from strictly geometric forms—is an evidence of decline and degradation; and from this taint of corruption I do not consider exempt even the flowing tracery of York—the *domus domorum*.

instructive incident, and plainly pointing to the country from whence the corrupted forms of tracery proceeded. I believe no English antiquary would place these windows later than 1320 or 1330: the *fleur-de-lis* does not certainly appear as a form of tracery in French windows of an earlier date than about 1450.

The points of interest on the exterior may be presented in very few words. The buttresses claim the chief attention, because, though plain, the differences of the Early English and Decorated periods are well marked in their composition and detail. Those of the chancel aisle, of good projection, are thrice set off, the successive planes of elevation being united by plain slopes. The plinth mould—one of the loftiest I remember to have seen, reaching nearly to the cill of the window—is unusually bold and good. In the buttresses of the chancel itself, doubled at the angles, the set-offs and the summit are crowned by triangular heads, below which is introduced a simple traceried design on the face. The string course, the all but universal Decorated section, the scroll mould, extends uninterruptedly below the windows, over the buttresses, and is inflected in passing over the priest's door. The battlemented parapet on the top of the south-west wall, and the small square shafts, terminating in crocketted pinnacles, set at intervals, seem parts of the original construction. The coupled lancets of the chancel aisle are surrounded by two hollow-chamfered continuous orders: the Decorated windows of the western portion, worked with narrow square fillet and hollow-chamfer: the external mouldings of the chancel windows the exact counterpart of the interior. The pointed doorway, spoken of in a previous part of this description, is undoubtedly contemporaneous with the pointed arches of the interior.

In the west wall, between the first and second window from the east, is introduced a large ogee-formed recess, nearly on a level with the ground, crowned with a canopy of the like form, carrying the immoderately heavy crockets and finial which characterize very late Decorated or Early Perpendicular work.

The square Tower engaged at the west end, of width coinciding with the nave, and the octagonal spire it carries, are additions of the close of the eighteenth century. T. I.

SOME REMARKS ON THE APPEARANCE OF STRAIGHT LINES IN WORKS OF ART.

Mr. C. H. Smith, in thus heading his observations on this subject of interest, that appeared in the *Builder* of August 7th, seems to do some service to the question, as he thus points to its being considered widely and generally; inasmuch as the degree of curvature given now pretty universally to the upward contours of columns is only, I conceive, to be considered as the most prominent and most generally adopted, as perhaps the most easily applied, of those refinements originating with the Greeks, which came under this head.

There may be some instances even in the best period of Greek art, in which these curvatures may not be appreciable; but, if so, it is at least open to the view, that these cases may have been the result of attachment and precedent, and no doubt the first stage of the column was rectilinear. The Greeks were, doubtless, as we are ourselves, "*laudatores temporis acti*," as is seen in divers of their works of sculpture, as *rilievi*, in which the costume is of an age prior to that in which they were sculptured. This attachment, and the authority of past time, which we call "old times," although, in comparison to our own, they were, of course, as has been often said, young times, appears to be implanted in human nature; and the gradual struggle by which the architects of Greece emancipated themselves from trammels which were first probably forged in Egypt, is not, perhaps, the least interesting part of this subject.

If, however, the Parthenon is to be acknowledged (as it is generally acknowledged) as the most elevated and refined, and at the same time simple and grand example which the golden age of Greece has bequeathed to us, we cannot but recognise there the full adherence, by the Athenians of the age of Pericles, to those principles of delicate adjustment of contour, beyond that of straight lines, the soundness of which, I believe I am right in saying, is now endorsed by far the major portion of the architects of the present time. I would ask Mr. Smith himself whether, if he were now about to construct a building with columns, he would choose to adopt what has been called "the compensatory curves," for the upward contours of his pillars, or would he select such perfectly rectilinear ones as would appear in comparison both weak and crude? and this cannot well be called "begging the question," as the agreement of architects at present in regard to the treatment of this feature defends the suggestion from this rebuke.

And if this principle be acknowledged as regards columns, surely it does not appear that the mission of the curved contour should stop here, but rather essential that it should in some degree inform the other portions of the building. This principle of beauty is certainly illustrated in the human form in which, I believe, no one perfectly straight line exists; what may, at first sight, be thought straight, being found on examination to possess always at any rate some slight deviation from this, which probably a portion of some one of the conic sections would describe, although, of course, one would not venture to exclude, in so delicate a problem, other natural lines, as the catenary or conchoidal curves.

The example Mr. Smith gives of a celebrated architect of thirty or forty years ago actually having one of his buildings altered, in regard to the columns, from the adopted curvature with which, in his absence, they had been erected, to lateral outlines perfectly rectilinear, caused, if I recollect right, no little laughter at a late meeting of the architects' institute; and it is valuable as instancing the light in which those obstructions are held afterwards which, potent at the time, are sometimes thrown across the path of science and art.

It appears not improbable that in all cases straight lines in architecture might be in some degree treated (perhaps only practically at their edges) in a slightly curvilinear manner, and that the columns alone should never be the sole features to receive this refinement; and it may be that the ease of construction in perfectly straight lines and of junction may have been a main element in the retarding of the practical introduction of this treatment in our immediately modern times. The major portion of our work is constructed by contract, for which tenders in competition are made, and in a matter embarrassed enough already, these delicacies might form an element of still more difficulty. To comprise a consideration of these in an operation with which cost has so much to do would not be thought probably very practical; and it might be difficult even to impress an intelligent committee with the advantages of such refinement, as, while their beauties might in their eyes be somewhat problematical, their cost would be certain!

This would probably stand in the way of the addition at present of these refinements in works of common utility, or in common or rough stone; but in cases where marble is used, the introduction might be less difficult.

Appropriately, however, as Mr. Smith headed his article, perhaps it may be thought that he did not so well characterize those curved lines of delicate adjustment on which he comments; for the term "crooked" is not applicable to them. He might perhaps indeed as well have applied this term to the undulating contours of beautiful female form as to the outline of a Parthenaic column! I use, however, this merely as an illustration; for it is essential to keep the consideration of such lines of structural form as are meant to look curved strictly distinct from those of that curvilinear treatment of most delicate adjustment which, applied to straight lines, should be strictly compensatory; and which, indeed, should be like the garlic which the Frenchman used to rub on his plate before commencing dinner, in this respect,—that *its effect only, and not itself, should be perceived!*

Epsilon.

HOW AN ARCHITECT'S ASSISTANCE WAS OBTAINED ABOUT THE YEAR 1700.

Having had the curiosity lately to search the books of one of the metropolitan parishes, for the purpose of finding the name of the architect who was employed in the erection of the church, I met with the following curious particulars:—The requisite Act of Parliament having been obtained, the trustees met, and amongst other business several persons were named for the appointment of surveyor to design the church, viz. Mr. S——, Mr. T. B——, Mr. H——, Mr. J. J——, Mr. D——, Mr. C——, Mr. B——, and Mr. A——, who were to attend the next meeting. The trustees again met and adjourned, *as no plans had been left with the chairman.* On the next occasion of their meeting they considered whether they should pay 2 or 2½ per cent. to the surveyor for his trouble, and "2 per cent. and no more" was decided upon. Mr. C—— and Mr. S—— were in attendance: Mr. C—— agreed to accept the 2 per cent.; but Mr. S—— "refused." At the following meeting Mr. H——, Mr. C——, and Mr. T. B——, were in attendance, and "offered themselves candidates; and being called in, were asked by the chairman whether they would take two pounds in the hundred for so much money as should be laid out in building the said parish church, which they agreed to; and upon putting up the persons separately, the choice fell on Mr. H——. Ordered, that Mr. H—— be their surveyor, for the purposes in the said Act."

Plans were made and approved; advertisements inserted in a daily paper for lump tenders from workmen. These parties attended at a meeting of the trustees, when they were collectively asked whether any of them wished to make any deductions from their tender? One made his tender twenty-five pounds less. After they were opened, the lowest was asked for his sureties, which not being considered sufficiently good, the next lowest had the same question put: those offered were considered satisfactory. This tender had been sent in by Messrs. S—— and C——, the two parties mentioned above; and they built the church, under Mr. H——, apparently to the satisfaction of all parties: and as Mr. T. B—— became the surveyor a few years afterwards, he, no doubt, was also satisfied. Unfortunately I did not make a memorandum of the highest of the tenders; but I think it was about 260*l.* above the lowest, in a sum of about 2,000*l.*: five guineas were to be allowed per rod for "extraordinary brickwork," and 1s. 6d. per cube yard for digging and carting ground.

Mr. J. J—— and Mr. D—— were two architects of repute in their day: they evidently "declined" the munificent offer of 2 per cent. The edifice, which is still in existence, and appears likely to hold out for another century at least, is fortunately erected in "a hole-and-corner," and therefore *its simplicity* is not often noticed by those in search of moderate talent.

What was the regular remuneration in those days? or on what other grounds could Mr. S—— refuse the 2 per cent.? If 5 per cent. was a standard, when was it invented? I ought, perhaps, in justice to this martyr to professional etiquette, to place upon record, in your widely-circulating journal, that the gentleman who magnanimously declined the 2 per cent. was Stibbs, the celebrated Stibbs, the rival of Dance and James, who was not able long to continue this self-sacrificing assertion of the independence of his professional practice, and shortly afterwards appears as a builder. Wyatt Papworth.

BOURNE (LINCOLNSHIRE) WATER-WORKS COMPANY.

The first annual meeting of the shareholders of this company was held at the office of the society on the 7th inst. The capital account showed the works had been executed, at a cost of 1,287*l.* leaving a balance in hand of 13*l.* The supply of water to the first customer commenced on the 5th April, 1857. The revenue account would show the gradual progress, and the last quarter would indicate something like a return of 6 per cent.; but the balance in hand (from the many necessary expenses), being small, the directors recommended that it should stand to the credit of the company, which met with the approval of the shareholders.

A correspondent says, this small company shows what may be done with a little perseverance and economy, to supply the parish of Bourne, a population of 4,000, with pure water. The original supply came from a spring, called Peter's-pool, and running direct through the town, received filth of every description. Circumstances arose from which this company expected to procure pure water on the artesian principle: they have not been disappointed. From a bore of 4 inches, and 92 feet deep, conveyed into an air-chamber on the surface, and connected with the main, they procured an immense quantity of water, and this will rise to the height of 45 feet in the town, by its own natural force. The water is pure, sparkling, and like soda-water, when first drawn off, and this the company supply at a very economical price, as low as one penny per week to the poorer class of inhabitants in their own houses.

The only works and premises the company have for this supply are on a small patch of freehold outside the town, raised about 6 feet, turfed over, and having the appearance of a small tumulus. The cost was 120*l.*

Gas.—The gas contractors at Nuneaton have reduced the price of their gas to general consumers from 8s. 4d. to 6s. 8d. per 1,000 feet, lowering the scale according to consumption.

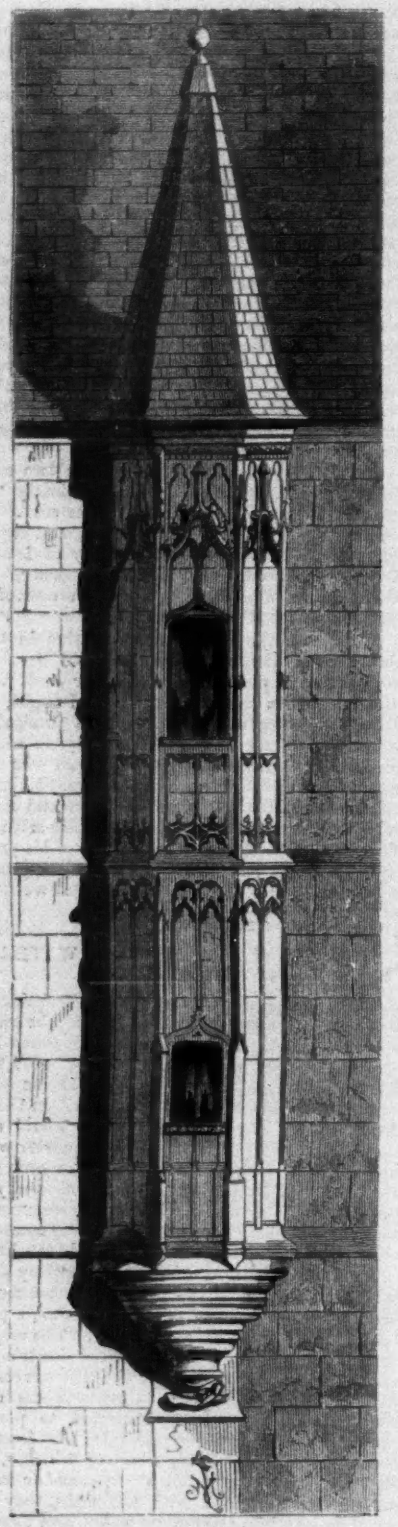
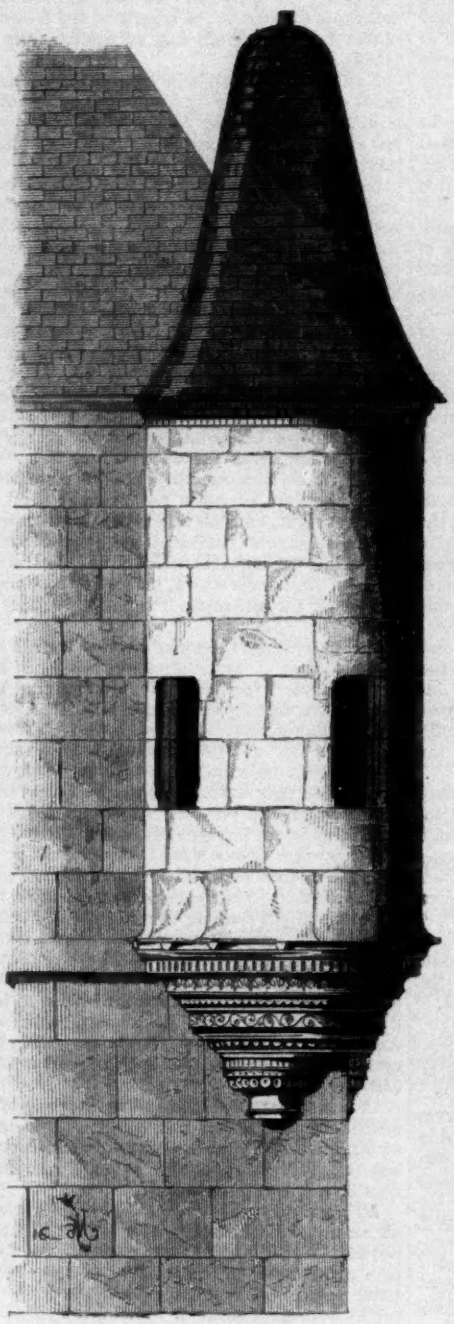
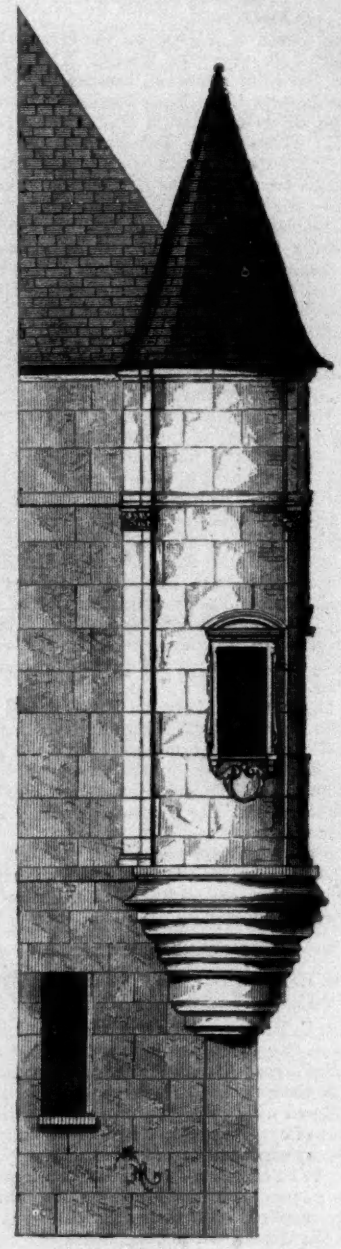
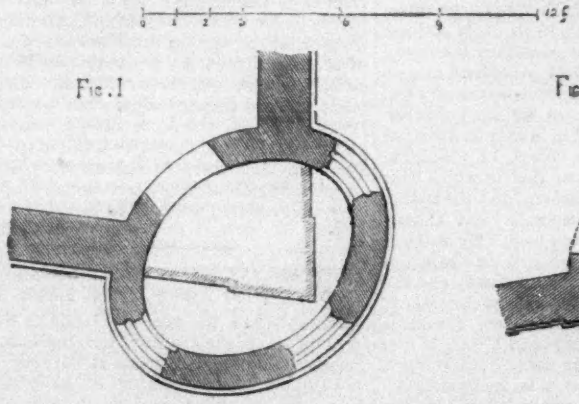


Fig. III.







ANCIENT DOMESTIC ARCHITECTURE IN FRANCE.—Angle Turrets in Paris.

ANCIENT DOMESTIC ARCHITECTURE IN FRANCE.

ANGLE TURRETS.

Continuing the series of angle turrets commenced on page 455 in our present volume, we give three additional specimens, two of them, figs. 1 and 2, being of later date than the other.

These angle turrets, concerning which we have already spoken, are usually of stone, but in later times brick was employed in them; sometimes brick mixed with stone. In plan they were usually circular or polygonal. Occasionally, however, they were square, as we see in the Rue du Jardinet, Paris, and Rue St. Catherine.

The new Rue Victoria, which opens in front of the Hôtel de Ville, passes over the site occupied by the Tourelle of the Place de l'Hôtel de Ville, fig. 3. It had the peculiarity of being constructed in a re-entering angle. If the stones could have spoken, they could have described more than one bloody drama played out on this site, which was called the Place de Grève before 1830, and was the scene of capital executions.

The turret in the Rue de Coq was destroyed in the formation of the Rue de Rivoli, as well as that of the Rue Jean Tiron:—street, house, and souvenir have been swept away by the new artery.

SHADWELL COURT, NORFOLK.—Additions by Mr. S. S. Teulon, Architect.

The turret of the Rue des Prêtres, St. Germain, fig. 2, is still standing. It is connected with the church, and forms part of the residence of the curé.

The turret of the Hôtel de Fécamp, Rue Hautefeuille, fig. 1, is remarkable for its oval plan and the richness of the mouldings of the corbelling. The interior is well preserved, and is still adorned with some fine carvings in wood.

SHADWELL COURT, NORFOLK.

This is one of the seats of Sir Robert Jacob Buxton, Bart. The original mansion was added to some twenty years ago by Mr. Blore, and Mr. S. S. Teulon is now engaged in very considerable additions, not only to the mansion, but the offices and stable buildings. The engraving shows one end of the hall, with the dining-room and one wing of the offices; the turret in the distance being the bell-chamber of a clock-turret on the other side, which, with these buildings, is just erected. The materials employed are local, except the freestone. They are flint, and parts of them set as mosaics. The discharging arches are of Kar stone, which is of a deep brown colour (a rough local stone). The engraving also shows a part of the alcove at one end of the terrace. The works are all being carried out with the assistance of a clerk of works only. The park around the mansion is very striking, and the new approach northward through a thickly-wooded plantation, or rather forest, is very grand. The entrance is beneath a gate-house, just completed, crossing an extensive court, and passing beneath the clock-tower into a court in front of the mansion, where a large tower, forming the vestibule to the great hall, is now being erected.

THE TAUNTON TOWER, OR A WORD FOR RESTORATION.

With the greatest respect for the opinions of Mr. Denison, I must say I read with surprise, almost amounting to alarm, his communication in your impression of the 7th. If what this gentleman urges be the proper course to adopt in respect to Taunton, Somersetshire might exclaim with Wolsey—

> "Then farewell—
> A long farewell—to all my greatness;"

for, unquestionably, one of the greatest attractions and peculiarities of this county consists in its interesting series of *Perpendicular* towers. And if the Taunton tower is to be blotted out of the past, and if such works are to fall under the "nipping frost" of these pure times, I should like to know how many years' purchase the *Perpendicular* style is worth. "Time, the great destroyer," will be outwitted and cheated of his prey by the giant learning of the present day, and a stroke of the pen will annihilate that which whole centuries of wintry storms failed to destroy. To say the least of it, Mr. Denison's suggestion appears premature. Had we attained to a style of *our own*, distinguishing the nineteenth century from the thirteenth or fourteenth, as decidedly as that of the fourteenth is distinguished from the twelfth or eleventh, the practice adopted by the Mediæval architects (viz. to reconstruct in the style of the day) might be advanced with some degree of plausibility as an argument for non-restoration. But as it is, with all our progress, which I would be the last to underrate, we are still merely in the rudiments of the revival; and, to use a musical simile, we are as yet only transposing into different keys the exquisite melodies of the thirteenth and fourteenth centuries. When, however, from the same notes we shall have elicited a *new* and equally harmonious melody, *then*, and not till then, will it be time to "thrust from their stools" the architects of the weak but *original and indigenous Perpendicular*. I have little doubt but that eventually we shall attain to this long-hoped-for position; but even then the question arises, would the Mediæval practice be the most advisable course? I trow not. The art of building in the present day, as compared with what it was in old times, is too extended and too universal to admit a parallel case. And even granting that our architecture shall eclipse everything that has gone before ("a consummation devoutly to be wished"), are we, therefore, to selfishly devour the historian's food? As has been somewhere said, is there not land enough, and to spare, without depriving posterity of its rights?—or is all our vaunted progress only to lead us to cannibalism, to eat up that very mother from whose breast we have sucked the milk and the life of our art-knowledge? No one can more heartily concur with Mr. Denison than I do as touching the imperfections of the style in which the old tower of Taunton was built; but infinitesimal as its artistic merits may be, we should do well to consider how far we are justified in annihilating an *original design*, however poor, if it possesses *any* merit whatsoever. Yea, further, even though it possess no merit, yet inasmuch as it is one of the indices of the architectural mind of the period in which it was conceived, it ought to be, and should be, preserved.

With regard to Messrs. Scott and Ferrey, they have already more than ample opportunities, in the new churches, &c. which fall to their lot, to show the world in general, and the "good people" of Taunton in particular, what lofty flights architecture is capable of. Natheless, the Lancastrian architects were as ambitious to *live in their* works as we of the nineteenth century are in *ours*. Then let us not worry their ghosts, but let us all (architects and amateurs) press onward and upward; and, as we mount the everlasting hill of art which rises before us, let us look with a pitying eye upon our brethren in the valley; and the higher we ascend, the fainter will appear their failings and shortcomings, while fresh truths and new beauties will be revealed to us, and we may even find some good in Nazareth—some art in the much-despised and lately-ignored style yclept *Perpendicular*.

E. W. G.

THE TOWER OF TAUNTON.

If a single side of St. Mary's tower had been left standing, and likely to stand, I should have thought it quite right to restore the other three to match it; or if the external stone-work had been good and only the mortar perished, I should have advocated, as warmly as Mr. Scott and Mr. Ferrey at first hoped to be able to do, the rebuilding of the old stones; and for this plain reason,—that in either case you would have been preserving a real antiquity, or as much of it as was possible under the circumstances.

If "M. I. B. A." had condescended to read what I have said upon this very subject in the last edition of my book on Church-building, he would have seen that such were my opinions two years ago, before the state of the tower was proved to be hopeless; and, without reading it, he knew of course, when he wrote his foolish and ill-tempered letter, that the tower actually had been "carted away as rubbish" and "annihilated," before I said a word about doing either one or the other, or about the style in which the new tower should be built. As soon as that was done, it passed out of the domain of antiquarianism. The new tower will be not a bit more valuable or interesting as to antiquity whether it is built in the best style of the thirteenth century or in the worst style of the fifteenth. As a piece of architecture, it will be admired if it is good, and condemned if it is bad. If it is bad, it will certainly not be saved by any appeal to antiquity when it has ceased to be old; and if good, nobody will condemn it, either for not being old or like something else which was old but worse, or because it is the only tower of its kind in that part of England. While it was a real antiquity, it was valuable and venerable in spite of its faults; but a sham antiquity with glaring faults, made more glaring too (as they will be) by modern workmanship, will infallibly be pronounced an ugly blunder in spite of the old beauties, which may be successfully copied, or may not.

The case would be different if there was any fair division of opinion about the things which every architectural critic, from Britton downwards, has admitted to be serious defects in the tower. The advocates of the Perpendicular style are as sensible of them as the Early Gothic men, amateurs or professionals; for scarcely any one but this "M. I. B. A." can be now-a-days so ignorant as to speak of the thirteenth century as "a period when the leading taste was that of quips and quirks, of capricious exceptional parts." On the contrary, the author who has written most strongly in favour of the late styles as a whole, admits them to be inferior to the early ones in the beauty of their details. The overloading of buildings, especially at the top, with monotonous repetitions of the same unmeaning and dull ornament, was pre-eminently the fault of the age when that tower was erected, and when Gothic architecture was on the point of sinking under its own corruptions and excesses.

Yet all the faults of this building—by no one that I ever heard of denied to be such—it is now proposed deliberately to copy and perpetuate, at least for another 400 years, and without the slightest necessity; for everything that really was beautiful in the old tower may be just as well copied in the new without the defects as with them; and that, either in the bold and strong Decorated style of the thirteenth century, or in the really good Perpendicular of the fourteenth, if the architects are seriously afraid that a Perpendicular church will not bear a Decorated tower at its end, as well as the neighbouring county's Early English cathedral bears a Decorated steeple on its back, and as every other cathedral in the kingdom bears a mixture of styles still wider apart.

As for the argument that there is at present nothing earlier than Perpendicular in the neighbourhood, I should think that rather a reason for introducing something of an earlier style than for keeping it out. But that is a matter of taste on which different opinions may fairly be entertained. What I want to save Taunton from, before it is too late, is the deliberate expending of a good many thousand pounds in copying what everybody knows to be wrong, and what no architect with a name to lose would think of designing for himself. I dare say I shall do no good by giving this warning. But I have given it, not because it signifies to me whether Taunton Church has a good tower or a bad one, but because it happens that there is hardly anybody else in the same position for giving it, as there is nobody else who knows so well what has been done in the similar case of Doncaster, except the architect of both churches; and he for various reasons is not likely to be more active in proposing the change at Taunton than he was for several years at Doncaster, where at last he concurred with me in recommending it, and has been singularly successful in executing it. The change ought to be still more successful in this case,—not merely because one of the architects has had that experience elsewhere, but because there were no such glaring defects to be removed at Doncaster, where the tower was already in the best style of Perpendicular architecture, whereas at Taunton it was nearly in the worst.

So much for Taunton. I am quite aware, however, that "M.I.B.A.'s" object was much less to uphold any particular style of architecture than to have a fling at the amateur architects, who, he clearly thinks, ought to be content with the privilege of finding money and praise for the professional members of the Institute of British Architects, and to have credit in return for all the architectural monstrosities of the nineteenth century, because they will not leave the architects to their own good taste. This piece of second-rate professional cant is becoming a little too common; and if we did not know (as, indeed, the "M.I.B.A." complains) that the leading members of the profession do not sympathise with it, it would have received an answer before now, which the architects will find, whenever it is given, not a very pleasant one.

E. B. Denison.

CHRIST'S HOSPITAL AND OTHER CHARTERED SCHOOLS.

It is gratifying to find that the *Times* has taken up the subject of removing the great residential schools from London to the country: an article which appeared on Friday (13th inst.) first treated of the Foundling Hospital, and then the question of that noble institution, "Christ's Hospital."

Again, on the 16th. (Monday), a leading article takes up the theme as to St. Paul's and Merchant Tailors' Schools, and the Charter-house: the benefits to be acquired by such a change were fully described, as being promotive of the morality, health, and education of the pupils, as offering the means of doubling the numbers to be received at each establishment, of vastly increasing their revenues, and of raising the standard of learning, whilst at the same time, by the sale and conversion of the grounds and buildings now in their occupation, it was shown that the over-crowded citizens should be equal gainers in the enlargement of their constipated metropolis.

This is all very true, and the necessity for such changes has been fully recognised, some four or five years back, in five articles in the *Builder*, two of them headed the "Charter-house," and two more headed "Christ's Hospital," together with one other article on "The Colleges and Schools of London," wherein were set forth the particulars of the revenues, number of pupils, amount of church patronage, and collegiate exhibitions, with many other details; but above all were dwelt on the advantages that must result to all the residential schools by the *sale of their City foundations, and their transference* to a short distance from London on a line of railway.

Soon after the publication of these articles in the *Builder*, the governors of Christ's Hospital met and considered the plan suggested. It was debated and supported by many of the 400 governors, and amongst the rest by the Rev. Head Master of Instruction, but it was negatived.

The advocacy of the *Times* may, and it is to be hoped will, create a spirit of inquiry into the subject; for there is no measure of domestic civic economy that could diffuse more benefit upon the youth in pupilage, nor upon the commercial portion of the metropolis; but if such a measure should be carried out, the *Builder* must have the merit, if any, of its origination.

The temptation to increase the revenues of Christ's Hospital and the Charter-house, by the addition of 250,000*l.* each, to be gained by the sales of their urban sites, is great indeed; and as the *Times* says, the spirit of the founder, Thomas Sutton, might look aghast at a new college, the perfection of architectural models at parks, halls, and extended classes, outnumbering any of Oxford; and more particularly at an enlarged educational curriculum, such as the monasteries he had seen suppressed had never contemplated.

Such objects are worthy the attention of all public journalists: their advocacy is a duty; but in divulgating a new project or idea, which can have no "*Lettre de cachet*," as it has been already made patent to all, some avowal of its origination would be but fair to the *Builder*, and to

QUONDAM.

THE BRITISH WORKMEN'S EMIGRATION SOCIETY.

WHEN we witness the effects which the depressed condition of trade causes in many districts both of the metropolis and the large provincial towns, where we have seen the families of those willing to work falling into hopeless poverty, and other evils springing up, the thoughts will turn to those wide lands where the labours of vigorous, hard-working men are sure to meet with a proper reward, and where children, instead of being (as is too often the case in London) a drag and hinderance, become a help and blessing.

There are few things more painful to witness than the compulsory idleness of those who ought to be able, and are willing, to earn their bread by honest labour; and it is satisfactory to learn that a plan, which has for its object the assistance of suitable parties with the means of emigration to one of our colonies, has been proposed by a large body of British workmen, and has met with the sanction of the Right. Hon. Lord Ebury, Mr. John Labouchere, Mr. Robert Hanbury, M.P. and the Rev. W. W. Champneys.

It is pointed out, in connection with this well-intended scheme, that if 50,000 persons each contributed but sixpence per week for one month, the amount so raised would be 5,000*l.*: this, at the rate of 8*l.* 10s. per adult for the passage, or assisted passage money, to several of the British colonies, would be sufficient to send out the number of 588 adults, by which good workmen and labourers would be enabled to emigrate to such colonies; and not only would the men obtain good wages, but the labour-market at home would be relieved in the same proportion as that of the colonies would be improved by this process. The proposals of this new association are as follow:—

1. It is intended to endeavour to raise money to enable workmen to emigrate, either wholly or in part, on loan; and to secure, as far as possible, the return of the loan, it is proposed—

2. That the men to whom the loans are made shall be, for the present, members of the British Workmen's Society, in whom the other members have confidence.

3. That whatever these men have subscribed to the emigration fund of their own society shall be paid to them, to diminish the amount which they may require to borrow.

4. That authority shall be given to some responsible agent, in the colony, to enforce the payment of the loan by instalments, such authority to be given by a legal instrument, properly signed and sealed in England.

5. And as the moneys lent shall be from time to time returned, fresh emigrants shall be sent out to such colonies as offer the fairest prospect of support and employment to the different classes of labour.

A small company of emigrants sailed for New Zealand in the middle of June last; and the members of this society appeal to the general public for assistance in carrying out their proposed plan. No doubt when this society, formed by working men, for the purpose of providing the chance of employment,—that most valuable of all kinds of assistance to the right-minded artisan—becomes more generally known, help will come from many quarters. We should, however, like to see a vigorous effort made amongst the working classes to endow an institution which will be of extent proportionate to the need; and it should be borne in mind, that those who remain at home will be benefited also.

It would be an easy task for the British workmen, without the assistance of others, to provide an emigration fund in a few months of 30,000*l.*—a sum which, if properly managed, might be the means of annually enabling from 3,000 to 4,000 persons to emigrate. That the funds thus raised will be honourably and properly applied, is made certain by the character of the gentlemen who have accepted the office of trustees; and we sincerely hope that the workmen of all classes throughout the country, will give their consideration to the means which are now offered of founding an institution which would be an honour and partial benefit to themselves, and also a means of helping those who, by unfortunate circumstances, require aid.

It is evident that care will be required in the selection of emigrants, for many sad accounts come from Canada and other parts, from linen drapers' assistants, clerks, and others, of the difficulty of obtaining employment. There have also been complaints from Melbourne and the other chief seaports of Australia, and no doubt a considerable amount of distress exists in New York, and some other cities of the United States. These circumstances may, however, be attributed to natural causes, such as the immigration of unfit persons, the flocking together of persons in the large towns, hoping to obtain a living amongst a large population, instead of pushing into the more open country, and conquering the wilderness for their own uses. No doubt those great colonies which, little more than a century and a half ago, were either uninhabited wilds, or else scantily occupied by aboriginal people, must pass through various vicissitudes; and vice, a certain amount of destitution, ill sanitary condition, and other evils, will be centered in the large seaports, until the regular trade from the inland parts can be regulated by the formation of roads, railways, &c. Meanwhile, in Canada and New Zealand there is certain bread for all sober and industrious men and their families, who have the chance of reaching those shores, and will set vigorously to work.

ELECTRO-TELEGRAPHIC PROGRESS.

"GLORY to God in the highest! On earth peace and good will amongst men!" Such are the terms of the greater portion of the first formal message transmitted from the old world to the new, *viâ* that grand and cosmical highway beneath the waves, the Atlantic Telegraph. Grand indeed must be that work whose consummation excites the cool, and grave, and matter-of-fact "directory" of a "Telegraph Company," so to transcend the usual and stereotyped phraseology of "business!" and well may Dr. Cumming be excused for preaching, on the auspicious occasion, as he has just been doing, from the prophetic text, "And there shall be no more sea!" or even the *Builder* of 14th November last, for hinting something analogous as to the "drying up" of the mystical "Euphrates," to make "a way" to the West for "the kings of the East." The first "king of the East" who has made use of this "way for the lightning," is our own beloved sovereign,—a *Queen of the East*, at least, in a two-fold sense, as she has just become, by Act of our Legislature, at the very time her electrical way to the West was being opened. As regards our Indian empire, it is in truth only now that her title has been completed. And will not the literal Euphrates itself be soon "dried up," and another electrical "way" to the West be opened for this new Empress of the far East? At this very time the electric wires are literally on their way to the Euphrates for this very purpose! Even the infidel, we should think, must be astonished by these "curious coincidences" of ancient prophetic announcement in relation to "the latter times."

There will be one peculiar feature in the working of the Atlantic telegraph to which we think sufficient attention has not even yet been drawn, notwithstanding our own special allusion to it on a former occasion. That is, the alternate transmission of positive and negative electricity along the wire. Positive and negative electricity are doubtless as complete counteractives to each other's influence as are cold and heat. We have repeatedly pointed attention to the probability that positive electricity is more analogous to cold, negative electricity to heat. In noticing, some time before this peculiar mode of working the Atlantic telegraph was thought of, the phenomena exhibited by a small portion of an old submarine wire removed from one of the British Channel lines, which was exhibited at the Society of Arts, we pointed out the curious fact that the copper wire was subdivided or cut, as it were, into small morsels in the midst of the gutta percha, each morsel being entirely separate from the others, and thickened at both ends as if some condensing or hammering process had been effected on each separate piece. This we attributed to the perpetual and uncounteracted operation of the positive electricity upon the wire, our purpose being to induce consideration as to how such disintegration should be obviated. The alternate transmittal of the negative by turns with the positive, was an obviously probable way of counteracting or preventing such disintegration; and we are persuaded that it will prevent it in the case of the Atlantic telegraph, and that other advantages will be found to flow from this mode of working the line. Yet we are not aware whether any such advantage as that indicated has been thought of in this case; but it looks as if such were one of the purposes of the resolution come to.

On the subject of ocean telegraphs, a correspondent gives a contemporary the following calculations:—From Falmouth to Gibraltar the distance is less than 1,000 miles; from Gibraltar to Malta, 988; Malta to Alexandria, 815; Suez to Aden, 1,310; Aden to Bombay, 1,664; Bombay to Point de Galle, 960; Point de Galle to Madras, 540; Madras to Calcutta, 780; Calcutta to Penang, 1,213; Penang to Singapore, 381; Singapore to Hong-Kong, 1,437; Singapore to Batavia, 520; Batavia to Swan River, 1,500; Swan River to King George's Sound, 500; and from King George's Sound to Adelaide, 998. From Adelaide to Melbourne and Sydney there will shortly be a telegraphic communication overland. From Trinity Bay, in Newfoundland, to Bermuda, the distance is about 1,500 miles; from Bermuda to Inagua, about 1,000; Inagua to Jamaica, 300; Jamaica to Antigua, 800; Antigua to Demerara, *viâ* Trinidad, 800; Antigua to St. Thomas, 227; Jamaica to Greytown, *viâ* Navy Bay, 1,000; and from Jamaica to Belize, 700. It will thus be seen that all our settlements, dependencies, and colonies in the Peninsula, Mediterranean, Arabia, India, China, Australia, the West Indies, and Central America could be joined to England by shorter submarine cables than that which at present connects Ireland with Newfoundland, and without their touching any powerful foreign state. Reckoning 20 per cent. for slack, the whole length would not measure more than 24,000 miles. These cables would place England in almost instantaneous communication with upwards of forty colonies, settlements, and dependencies, situated 20,000 miles apart, in the eastern and western hemispheres. Millions of money would be saved to the population of England every year in articles of consumption by English and colonial merchants knowing the state of the home and colonial markets by telegraph. The British squadrons in different parts of the world need not be one-tenth so large as they are, if England and her foreign dominions were enclosed in a telegraphic network.

Telegraphic communication is now all but effected between New South Wales and Victoria. The line has also been completed between Melbourne and Adelaide, the capital of South Australia. The distance traversed by the line between Melbourne and Adelaide is over four hundred miles. The New South Wales Legislature are said to be already "entertaining favourably the proposition of the English Company for the formation of a submarine telegraph between Great Britain and the Australias." The cable intended for submersion beneath Bass's Straits, so as to connect the island of Tasmania with the rest of the colonies, is now in course of manufacture in England.

A prospectus has been issued of the Malta and Alexandria Telegraph Company, with a capital of 300,000*l.* in 5*l.* shares, to complete the Mediterranean portion of the line to India. A cable is proposed from Malta to Candia, whence lines will diverge respectively to Constantinople and Alexandria.

Over-house Telegraphs.—The use of the telegraph by firms having houses of business in various parts of the metropolis is likely to become common. Possibly some of our readers may have seen wires crossing some of the metropolitan streets. Messrs. Waterlow have a set of wires which cross the river twice, and put their establishments in Birchin-lane, London-wall, and Parliament-street in direct communication. The wires are supported on poles fixed to the tops of the houses at such convenient distances as are most readily obtainable. Mr. Waterlow says that he has very rarely had any difficulty in obtaining the assent of proprietors of house property over which the

wires pass; but in almost every case a written agreement is entered into to remove the supports and wires at a short notice if required, making good any damage which may have occurred. The whole cost is at the rate of 50*l.* per mile, and it is calculated that the whole of the police stations and fire-engine establishments in the metropolis might be brought into communication with each other by an outlay of 5,000*l.* We may give some further particulars.

CHURCH-BUILDING NEWS.

Hatfield.—St. Mary's Church, Newgate-street, Hatfield, built about ten years ago, by Mr. T. Mills, M.P. and just now enlarged by him, has been reopened for divine service. The edifice has been almost rebuilt, there being scarcely a vestige of the former church to be seen. Two transepts have been thrown out, a tower added at the south-west corner (shortly to be crowned with a spire), a new west front, octagonal vestry, &c.; the whole in Bath stone. There is a considerable amount of ornamental carving about the doors and windows. Some stained glass, by Mr. A. Gibbs, has been inserted in the east and west windows, and also in those at the extremities of the two transepts. The architects were Messrs. Lander and Bedell, and the contractor, Mr. Dove.

Newbury.—The tenders for building the Baptist New Chapel, in Northbrook-street, were opened on Monday in last week. Twenty were given in from various builders, and the following were accepted by the committee:—

Mr. Church, for Contract	No. 1,	£395	16	6
Mr. Warner, „	No. 2,	200	0	0
Mr. Blackwell, „	No. 3,	126	1	0
Mr. Purchell, „	No. 4,	386	2	8
Miller & Warner, „	No. 5,	82	0	0
Total		£1,190	0	2

The tenders accepted were not all of them the lowest in amount, the medium priced tenders being thought to be the most desirable.

Tunbridge Wells.—Tenders for the erection of the parsonage-house for St. John's Church have been received, and that of Mr. Elias Edwards, builder, Mount Ephraim, accepted.

Seal.—Another stained-glass window has been put in the chancel of Seal Church, by the Marquis Camden, containing twenty figures, representing our Saviour's Ascension. Messrs. Oliphant and Co. of London, executed the work.

Brighton.—Tenders have been invited for the erection of the chapel and other buildings, for the completion of the western wing of Brighton College. The works are from designs by Mr. Scott, as the architect of the college.

Sherborne.—Gangs of workmen were making strenuous efforts to complete the works in connection with the chancel of Sherborne Church in time for the opening on Wednesday. The last compartment of the great east window was being fixed; the old stalls restored have been replaced; the encaustic tiles laid, and the altar-piece reared. The levelling, at least of a portion of the churchyard was to be completed by Wednesday. A monumental brass, to the memory of the late Earl Digby, is being prepared by Mr. Waller, of London, and will be laid in the centre of the choirs. It bears an inscription recording the circumstances of the restoration.

Frome.—A mural marble tablet, 7 feet 6 in. by 4 feet, has just been erected in the Boyle Chapel at Frome Church, Somerset, to the late Edmund eighth Earl of Cork and Orrery. It consists of a moulded and panelled inscription-table, surmounted by a general's hat, plume, sword, and sash. Hung on either side are the official robes of a peer and knight of St. Patrick, and on a slightly projecting plinth, the arms, supporters, coronet, and motto of the deceased, with the collar and badge of the knightly order. The work was from the studio of Mr. Richardson, sculptor.

Northleach.—On the 4th inst. the foundation-stone of a new Independent Chapel, at Northleach, was laid by Mr. H. O. Wills, of Bristol. The building will be in the Gothic style, from a design by Mr. J. R. Smith, of London. The work is under the direction of the English Congregational Chapel Building Society, and of a committee appointed by the Bristol and Gloucestershire Congregational Union.

Tachbrook.—A window has recently been placed at the east end of Tachbrook Church. The design is by Signor Giacosa, and has been carried out by Mr. Holland, of Warwick. The subject is the Ascension of our Saviour.

Ruabon.—On the 4th inst. at a vestry meeting in reference to the new cemetery, a report was read, in which it was stated that a number of sites had been inspected, but that the board had finally fixed upon a piece of land belonging to Mr. West, which could be purchased at 75*l.* per acre. The cost of the land would be 152*l.* 14s. and the probable cost of the conveyances, 50*l.* Mr. Penson, who had prepared plans and drawings, estimated the expense of the cemetery at 675*l.* 17s. 9d. making a total of 878*l.* 11s. 9d.

Doncaster.—A stained-glass window has been put up in the north aisle of St. George's Church by Mr. Wailes. It contains, besides subjects in heraldry, the Passover, the Passage of the Red Sea, Moses striking the Rock, the Brazen Serpent, Aaron and Hur holding up Moses's Hand, and Moses viewing the Promised Land. The window forms a companion to the one opposite, also recently completed.

Scarborough.—The Rev. William Fry, canon of Peterborough, with the view of improving St. Thomas's church, has made the following proposals:—First, that he will bear, with any other friends of the church, one third of the cost of replacing the stained glass in the east window, illustrative of "the incredulity of St. Thomas;" and that if, before Christmas, 60*l.* be contributed towards replacing the seats in the centre and south divisions of the church, by substantial pews, he will add to that sum one-tenth.

Kilbarchan.—The enlargement and renovation of the old parish church of Kilbarchan being now completed, it has been re-opened. Mr. Kirkland, of Glasgow, was the architect who was consulted as to the practicability of enlarging and otherwise improving the church. Subscriptions to the amount of nearly 1,000*l.* were collected. The additions now completed have been carried out in conformity with the style of the architecture of the old church, and consist mainly of a new stair tower and two additional transepts and galleries, the principal entrance to the church being a semi-circular arch-headed doorway at the bottom of the tower. This arch is moulded, and enriched with scroll work. The base of the tower is splayed, and the upper story partly corbelled over the circular corner of the ground story. The dead wall on each side is relieved by a panel of the Vesica Piscis form, interlaced with *fleure-de-lys*. The tower is crowned with corbelling and cable mouldings, supporting a balustrade, having a small turret at one of the angles. The high-pitched roof or spire on the tower is covered with scalloped slates, and surmounted by a metal vane. The interior of the church has been remodelled, the plaster ceiling removed, and the roofs exposed. The seats have been remodelled, and increased accommodation to the extent of from two to three hundred sittings obtained. There has also been added a new pulpit in keeping with the style of the building. The woodwork has been painted and varnished. The windows have been filled with cathedral glass, having ornamental borders, and two stained-glass memorial windows are being inserted on either side of the pulpit. The painting of the church and the stained-glass windows have been executed by Mr. John Cairney, of Glasgow. The contractor for the mason work was Mr. Woodrow, and for the other works, Mr. Alexander Purdon, both of Kilbarchan.

PURIFICATION OF THE TAME: EXPERIMENTS WITH BIRMINGHAM SEWAGE.

An account of some experiments made by the corporation of Birmingham with the view of staying the Chancery proceedings instituted by Mr. Adderley, M.P. is given in last week's *Journal*. The works, says this paper, are situated at the outlets of the two great sewer mains, near the junction of the Rea with the Tame. Here the corporation possess a five-acre piece of land, purchased for the very purpose to which they are now about to apply it, under the pressure of the Vice-Chancellor's order. The experiment is on a limited scale. It is conducted by means of a series of three tanks, through which a portion of the sewage is made to pass upon its emerging from the main. Each of the tanks is separated by a filtering bed of stones, —the first being round gravel of a goodly size, the second broken stones of smaller dimensions, and the third, gravel of the kind usually known as "nuts." The thickness of the beds varies from a foot and a half to seven or eight inches: being enclosed within perforated boards, they can be used for tanks of any depth. The sewage *pur et simple* is introduced into tank No. 1, and the filtering bed separating it from No. 2 is protected by a lining of basket-work, to prevent the grosser waifs and strays from stopping up the perforations. Tank No. 2 is in this way kept tolerably free from solids. No. 3 is in a more liquid condition still; and when the sewage has forced its way through the final bed of "nuts," the water is as colourless and pure as Mr. Adderley could wish his perch and chub to revel in. Supposing the experiment is regarded by Mr. Adderley as satisfactory, the whole of the sewage of the town will be treated in a similar way. In dry weather this amounts to no less than ten millions of gallons per day. The works, therefore, will have to be on an extensive scale. The filtering tanks will cover two acres, it being necessary to have two sets, in order that one may be at work while the other is being cleaned and emptied of the solid sewage. If it pays the working expenses of the salvage, the Public Works Committee will be contented. The cost of the work will be from 2,000*l.* to 3,000*l.*

GAS IN ROME, AND HONOUR TO SKILL.

We have before now noticed the satisfactory progress of the enterprise for lighting Rome with gas, and we learn with pleasure that his Holiness the Pope has named the indefatigable *gerant* and engineer of the company, Mr. James Shepherd, "Chevalier of the Order of Pio Nono."

This is not the first occasion on which the Pope has evinced a warm interest in the success of this undertaking, and his appreciation of the energy of Mr. Shepherd, having, upon a visit to the gas-works, some time ago, presented him with "a gold medal of the first class." We see in these acts a desire to do honour to English enterprise and English skill, which is very satisfactory.

ARROWSMITH'S PORTABLE CHALETS.

Messrs. Arrowsmith, of whose Swiss Parqueterie we have before had occasion to speak, are introducing the use of Swiss châlets in this country as summer-houses, lodges, and cottages for gardeners and others. These châlets are all prepared by machinery, with the floors, walls, and ceilings either plain or of the Swiss parqueterie.

Some of the stock designs are picturesque in outline, and consist of the projecting roof, terminating in cantalivers, fret-worked valence, and cornices, and the perforated balconies and staircases, supported by detached columns, which travellers know.

The varieties of form and colour in either dull or polished surface, of which these structures are capable, offer a wide range to the landscape gardener and improver, for producing effects, united with purposes of utility.

It is suggested, and reasonably, that to those who may be about to build houses on their estates these châlets offer the facility of immediate habitation, while affording the means for selecting the site for the new building, and afterwards superintending its progress; and, when the châlet has answered this purpose, it can, if desired, be removed to ornament a still more appropriate part of the grounds as a lodge or summer-house. One has been erected by Messrs. Arrowsmith at Tulse-hill, but we have not yet seen it.

WATER-SUPPLY, BERMONDSEY.

Sir,—With reference to your recent faithful description of the water-supply to the courts in this locality, it will be but fair to say that the apparatus of which you speak favourably is Jennings's patent water-waste preventor.

The best means of supplying water to small house property has occupied much attention. Ball and service-cocks have no sooner been fixed in poor localities than they have been stolen. The right thing would be to do away with the filthy water-butts and the cisterns, and the tempting cocks, and to give a constant supply, cool and fresh, direct from the main.

The supply from the water companies being intermittent, this could not be done. However, continued agitation, and the proved necessity for a constant supply, have, I am happy to say, induced the East-London and Southwark Waterworks to give a constant supply to any property, if a proper water-waste preventor be used.

The companies will find their interest in this, as is proved. I will instance Magdalen-court, Tooley-street, which is in the locality to which you refer. This court is inhabited by a dense population, chiefly Irish: it contains twenty-nine houses, each having a closet supplied by the waste preventors: there are also three fixed in the court for domestic purposes. The old butts have been removed, and the inhabitants are now in possession of an unlimited supply of water day and night, which is taken, fresh and cool, direct from the main; and the quantity consumed is *much less* than on the old intermittent system. Hydro.

THE METROPOLITAN COW-SHEDS.

At this season of the year the officers of health should examine with vigilance the condition of these places, which are still so numerous in the midst of our population. From various quarters we have heard complaints, some from those living close to the cow-sheds, of the continual and offensive smell which constantly arises, particularly in hot weather; and those at a distance of several hundred yards also complain of the pollution which at intervals taints the air. The effect is most unpleasant and unwholesome. On a sudden a smell of the worst kind fills every apartment of the rooms thus situated, and most people wonder whence it comes. Those who will take the trouble may readily trace it to the cow-yard, where they will find the men at work emptying a large tank, in which the refuse of the cows has been collected. We are told that, although this matter is carried away at such frequent intervals as every two or three days, the removal of it is a perfect nuisance.

If it be considered necessary to continue to keep cows in large cities (an opinion from which we differ), surely it should be made compulsory that such refuse should be deodorised before it is removed. We could point out several of those places from which the worst gases arise in neighbourhoods where almost every house is occupied by forty persons, and in some more. Pigs should be carefully sought for in such places, for the managers of these yards display almost as much ingenuity in concealing those unsuitable visitors in town from the sanitary inspectors as some Irish tenants do on the occasion of a visit from the tithe proctor.

Books Received.

The Practice of Engineering Field-work applied to Land, Hydrographic, and Hydraulic Surveying and Levelling, for Railways, Canals, Harbours, Towns' Water Supply, &c. &c. By W. Davis Haskoll, C.E. London: Atchley and Co. Great Russell-street. 1858.

We hear of "French without a Master," and Mr. Haskoll's book might fairly be called "Land-Surveying without a Master," its instructions are so full and so clear. It begins at the beginning, and takes nothing for granted: and those who master its teachings will find few difficulties in the field they will not be able to overcome. In addition to what is shown of its scope by the part of the title we have quoted, the book includes notes on the description and use of surveying and levelling instruments, and the practical application of trigonometrical tables, and is illustrated by numerous plans and diagrams. We may safely recommend it.

Miscellanea.

A Mountain of Iron. — An American, describing an "Iron Mountain," as it is called, near St. Louis (in rather high-flown terms), says,—"If St. Louis had a destiny of high rank from her relation to Pilot Knob, what must be said when the vast wealth of the Iron Mountain is found six miles nearer to your wonderful city? I stand upon this summit, and look down upon the shower of iron hail below, seeing its eggs of ore lying closely packed upon the hill side from base to pinnacle, and I am utterly lost for thought expansive enough to compass the world-wide influences which Iron Mountain will yet exercise upon the destinies of this wonderful state. When I follow the miner in his partial penetration into this iron mass, and find that it grows more rich and solid as he reaches further down, my head grows dizzy with the thought of what St. Louis must be, as the great point, when this mountain shall be melted and forged into the mole-hills of usefulness, under the direction of heaven-born genius. All this, and more than language can portray, is within three hours' ride of St. Louis, and can be taken there in its crude state for less than one dollar per ton freight, and could probably be purchased on a large scale at half as much more at the mountain. It costs next to nothing to get it on board the cars, which run alongside the base of Iron Mountain, where immense masses can be thrown out by a single charge of powder. 10,000 cars might be loaded there per day, and St. Louis might this moment be the rolling-mill for the world."

St. Bartholomew's Hospital.—A new receiving room for patients is to be erected on the site of an existing building at the side of the principal entrance in Smithfield. Mr. Hardwick is the architect.

Light with safety in Powder-magazines. —At Southsea Castle a number of Chappuis' reflectors have been fixed to supersede the dangerous necessity of using lamps or candles inside the powder-magazines. They reflect from one to another, and are said to be very efficient. The idea of their employment in this position seems an excellent one.

The Bordeaux Fountain Competition.—We have been asked more than once what resulted from this competition, the terms of which we made public in England, now long ago. It appears that there were thirty-six competitors, and some of the designs possessed great merit. A correspondent of the *Revue de l'Architecture*, stated at the time of the decision, as a curious circumstance, that during the examination by the jury of selection, the sculptors in it advocated the claims of designs essentially architectural, while the architects supported the designs wherein sculpture played the principal part, and ultimately indeed gave the first prize (240*l.*) to M. Bartholdi, sculptor, for a design which is described as "*pittoresque et tres mouvementé.*" This occurred some time ago. What has transpired since we do not know.

Fire in Ships.—A correspondent from Bombay suggests, that most vessels — particularly steamers—should have a strong pipe laid through them from stem to stern below ballast water-line; that this pipe should be bell-mouthed where it opens at the bow of the vessel; and at this place it should have a valve capable of being opened or closed from the deck. Throughout the length of the vessel, branching from this main pipe, should be other short pipes, directed into the cabins, holds, and different compartments of the vessel. Each of these smaller pipes should have a turncock to be worked on deck. Now, supposing a vessel under way at sea were discovered to be on fire. Instantly, the cock of the branch pipe pointing to the particular place where the fire existed would be turned,—the valve of the large pipe would be opened at the bow,—and a rush of water at least equal to the speed of the vessel would deluge the burning parts.

Ancient Mural Writing at Nynehead Church.—In inserting some windows in the church of St. Mary Magdalene, at Nynehead, the walls were found to have been covered with Scriptural sentences of the time of George Herbert. In the spandrils of the nave—arches are painted in yellow ochre, shaded with red ochre, foliated wreaths with pendants encircling texts of Scripture. On the south wall, the Lord's prayer could be deciphered, as also several geometrical devices, and one in particular, a trefoiled radiating semicircle, which seemed of an earlier date than the rest. Nynehead Church is about to undergo an enlargement, and a partial restoration, under the superintendence of Mr. William A. Sanford, of the adjoining court.

London Inns.—The "Salutation Tavern" still exists. The proper sign is the "Salutation and Cat,"—a curious combination; but one which is explained by a lithograph, which some five years ago hung in the coffee-room, and was presented to the late proprietor by, I believe, one of the Ackermanns. An aged dandy is saluting a friend whom he has met in the street, and offering him a pinch out of the snuff-box which forms the top of his wood-like cane. This box-knob was, it appears, called a "cat,"—hence the connection of terms apparently so foreign to each other. Some, not aware of this explanation, have accounted for the sign by supposing a tavern called "the Cat" was at some time pulled down, and its trade carried to the "Salutation," which thenceforward joined the sign to its own; but this is improbable, seeing that we have never heard of *any* tavern called "the Cat" (although we *do* know of "the Barking Dogs") as a sign. Neither does the "Salutation" take its name from any Scriptural or sacred source, as the "Angel and Trumpets," &c. The late landlord preserved a tradition of the house to the effect that Sir Christopher Wren used to smoke his pipe there whilst St. Paul's was in course of re-building. More positive evidence had he to show of the "little smoky room at the 'Salutation and Cat,'"* where Coleridge and Charles Lamb sat smoking Oronoko and drinking egg-hot;† the first discoursing of his idol, Bowles,‡ and the other rejoicing mildly in Cowper and Burns, or both dreaming of "Pantisocracy, and golden days to come on earth."§—*From Notes and Queries.*

* Lamb to Coleridge, Talfourd's "Life and Letters of Lamb," vol. i. pp. 14, 15.
† Same to Same, *Ibid.* pp. 41—43.
‡ Same to Same, *Ibid.* pp. 54.
§ Elia to Southey, "London Magazine," October, 1823.

Proposed Exhibition of 1861.—Public opinion appears to be steadily accommodating itself to the idea of an exhibition of art and industry in 1861; and doubtless, when the Council of the Society of Arts reassemble, they will take some vigorous steps to put the matters in train. Something has been said about holding the exhibition in Battersea-park, near the terminus of the West-end Railway. We trust, however, that no such notion will be entertained. The site in possession of the 1851 commissioners at Kensington and Brompton would be far superior, and indeed is specially marked out as the right place for the first of the decennial exhibitions, born of that of 1851.

Mr. Baily, Sculptor.—The Royal Academy of Fine Arts, at Antwerp, has just elected Mr. E. H. Baily, the English Royal Academician, a member of its body.

Art Gallery in Leeds.—A strong movement is at work to establish a Public Gallery for Works of Art in Leeds. At a meeting reported in the *Intelligencer*, resolutions were passed in support of the project, and a deputation nominated to confer with the Town Council; and at a subsequent meeting of the Corporation, the Town-hall Committee were instructed to meet the deputation, and consider with them the most desirable method of proceeding.

Patent Hoist.—A number of merchants, scientific men, and others, assembled last week at the warehouse of Messrs. S. and J. Watts, Portman-street, Manchester, according to the local *Courier*, to witness the action of the "Patent Hoist Governor." The hoist-box was regulated to travel at a speed not above 90 feet per minute, and the instant this speed was exceeded the checking apparatus stopped the hoist. This was effected by a pair of governor balls expanding and liberating a lever, which allowed the teeth to become fixed in the sides of the hoist, thus stopping its descent. The governor not only acted when the box descended too rapidly, but when the rope was cut. Mr. W. Fairbairn and Mr. B. Fothergill, engineers, are said to have given their written testimony to the efficacy of this invention.

Branch of Chester School of Art at Crewe.—It having been found desirable to open art classes at the Mechanics' Institution at Crewe, and the mastership having been given (along with that of Chester) to Mr. Davidson, head master of the Chester school, that gentleman delivered the inaugural lecture on the 3rd instant. Around the lecture-hall were displayed a large number of drawings, for which medals had been obtained by the Chester students, and various copies, &c. issued by the Government, and on the table were exhibited a set of models for landscape and general drawing, invented by Mr. Davidson. Mr. Ramsbotham, president of the institution, introduced the lecturer. The hall was well filled by a numerous and attentive audience. The artisans' class, it appears, already numbers thirty-six students, and an increase is anticipated as the evenings lengthen. An excellent room, with gas, &c. has been furnished by the council of the Mechanics' Institution, who also voted 5*l.* for examples to start the class.

An Open Road: Society of Arts Examinations.—Messrs. Thomas Ross Howard, of the Crosby-hall evening classes, and George Edward Skinner, of the Lymington Literary Institution, who distinguished themselves at the Society of Arts examinations in May last, having, through the permission of Lord Derby, been nominated by the council of the society to compete for clerkships in the Customs, have been successful in obtaining the appointments. There were four vacancies and twelve selected competitors. There is no reason now why men of ability, men who by industry and talent have obtained special knowledge, whatever their position, should remain in obscurity: a road is opened which all may travel.

Mr. Morewood's Tunnel Sewers.—Mr. Morewood is again bringing before the Board of Works and the public the claims he considers his scheme has upon their attention. He says,—

"In conjunction with parties of undoubted responsibility, I propose to the Board to construct intercepting sewers, deodorizing works, and pumps, &c. to remove not only the present sewage, but to remove double the present sewage flow from the area named, for 1,100,000*l.* and I engage that the tunnel shall be adopted for the removal not merely of double, but of four times the quantity of sewage now passing into the Thames. I also beg to say, with regard to the line proposed by me, that we shall be ready to make such deviations therefrom or additions thereto as may be desired by the Board, provided that any additional work be paid for in proportion; and we will give ample security for the due execution of works. Furthermore, upon the acceptance by the Board of the proposal above made, I shall be prepared to contract for a term of years for the pumping, deodorization, and removal of the sewage, on terms which will save 25 per cent. from the annual charges estimated for the last-mentioned works."

Proposed Vestry-hall for Chelsea.—Competition.—At the last meeting of the Chelsea vestry, it was determined to invite designs from sixteen architects, and the following were named and have since been written to:—Messrs. Legg, Godwin, Bird, Handford, Burnell, Beachcroft, Eppey, Trimmen, Habershon, Pocock, Nelson and Innes, Downes, Gritten, Eyton, Fowler, and Foulon. The cost of building, including ventilation, water supply, and drainage, is not to exceed 4,500*l*. At the meeting, a vestryman, Mr. Rabbits, very properly moved "That the successful competitor be employed to carry out his own design," but the motion was lost by six, the vestry determining to leave that question open. The premiums offered are 50*l*. and 20*l*.

Local Government Act, 1858, 21 and 22 Vict. c. 98.—This Act comes into force from the 1st September, 1858, in districts under the Public Health Act, 1848. In other places it takes effect at the expiration of two months from the date of its adoption. By adoption of this Act, boroughs, towns, and places possessing known and defined boundaries may obtain powers for their own Government and improvement, without recourse to the central executive or to Parliament; and places not having defined boundaries may acquire them for the purposes of this Act.

Sanitary State of Croydon.—The quarterly report of the local mortality, from April 1st to June 30th, from 1848 to 1858 inclusive, shows that the number of deaths for the quarter ending 30th June, 1858, is 108—*i.e.* females, 52; males, 56; which is considerably below the average of the same quarter in the previous ten years; and the rate of mortality of the whole parish may be taken as slightly above 15 in 1,000 inhabitants. In the Southern District, where the population numbers 3,067, the deaths for the quarter were only 5; whereas in the Eastern, the smallest district, with 2,304 inhabitants, they were 11, or as 19 in the 1,000 in the latter to 6½ in the former district. No death from fever had been registered. Were the deaths registered under the age of two years and above eighty years deducted from the tables, the ratio per cent. per annum would be 1·0. Notices for forty new houses had been given.

Libel on an Architect.—At the Chester Assizes, last week, an action for libel was brought by Mr. T. M. Penson, of Chester, architect, county surveyor for Flintshire, and a member of the city council of Chester, against Mr. J. D. Williams, a builder in Chester. Mr. Williams had signed a specification, as contractor, for building a villa; and after the work was completed, payment was delayed on account of a claim for Minton tiles as extra work made by Mr. Williams, who wrote to the owner of the villa, stating that the Minton tiles for the entrance-porch were inserted in the specification after he had signed it, and without his knowledge. Having been called upon by Mr. Penson to retract such a statement, as being libellous and not being the fact, Mr. Williams wrote to this gentleman himself repeating the libel complained of, adding, "I consider you in having done so as having been guilty of one of the basest acts it is possible for a professional gentleman to be guilty of." It was stated, on the part of Mr. Penson, that he had several witnesses ready to prove that the clause as to the Minton tiles *was* in the specification at the time Mr. Williams signed it; that it had been originally interlined in pencil, but had been written out in ink before being signed. For the defendant, of whom a simple retractation was still all that was required, it was agreed to retract if Mr. Penson would state that the clause was in the contract when signed. The fact was repeated, and the libel withdrawn, a verdict for 40s being entered for the plaintiff.

The Public Health Act in Worksop.—Sir,—It is quite true that for the last four or five years, the Local Board have had their own peculiar way of attending to the sanitary requirements of the inhabitants, and the steps they have taken would almost lead us to suppose that they thought there existed a virtue in law-suits; for instead of spending the ratepayers' money in the improvement of the sanitary state of the town, they have spent it in the Court of Queen's Bench, Chancery, &c. But, Mr. Editor, I wish to let your "Old Correspondent" know that "better times are coming." The present Board, with a laudable desire "to promote the public health," have engaged Mr. Rawlinson, C.E. to devise a complete system of sewerage and drainage. I need not say the opposition the Board have met with from the owners of cottage property has been immense, but the Board appear to be keeping to their path of duty, and have the applause of all sensible people.—A Constant Reader.

Crystal Palace: Picture Gallery.—Large numbers of persons are now visiting the Crystal Palace on the cheap *fête* days, and it is to be hoped that the next balance-sheet will show a good result. A new picture gallery has been opened in the gallery of the main building, on the same side as the Pompeian Court, where with a large number of old friends will be found many new ones. We have received some complaints from a correspondent touching the use of a large quantity of asphalted felt to block out the light, which he considers dangerous; but it does not occur to us that there is cause for alarm. For some time past the Crystal Palace has been thrown open to shareholders on Sunday afternoons. Many persons have availed themselves of the opportunity of a quiet stroll through the palace and grounds, which are now in a high state of perfection. The creeping plants and fuschias, with other rare plants within the building, are most luxuriant; while the display of geraniums, hollyhocks, and dahlias, throughout the extensive grounds, presents a brilliant *coup d'œil*.

Accidents to Property and Person.—A warehouse, at Mount-pleasant, Oldham, fell in last week, but fortunately without injuring any one. For some time the warehouse, which was two stories high, had been in an unsafe condition. ——At Warrington, near the new Market-hall, the roof and part of the side walls of a beer-shop, known by the sign of the "Hole in the Wall," suddenly fell in, and four of the inmates were buried beneath the ruins and severely injured.——A frightful scaffold accident occurred last week at St. Paul's, Covent-garden, which is undergoing some repairs: a workman fell from the steeple, a depth of 60 feet. He was taken to Charing-cross Hospital, with little hope of recovery.——On the 26th ult. a bricklayer in the employ of Mr. Crabb, builder, Great Tey, says the *Chelmsford Chronicle*, was repairing Mr. Green's water-mill, Ford-street, when the scaffolding on which he was standing gave way, and falling a distance of 30 feet, he was taken up insensible and conveyed home. Happily no bones were broken, and he is likely to recover.

New Act on Art-Unions.—Under this heading, an erroneous paragraph has been circulating which is calculated to produce an injurious effect on the mind of the public. The new Act of Parliament referred to as lately passed, does not in any way relate to, nor in any degree affect, the Art-Unions established for the general advancement of the fine arts in the British Empire, under the authority of the Act of Parliament passed in the year 1846, but it has reference solely to an association which was formed two years ago, for the purchase of works of utility and ornament, of British and foreign manufacture, to be afterwards allotted and distributed, by chance or otherwise, as prizes amongst the members. Doubts were entertained whether this association came within the meaning of the existing Act, and the new Act has been passed to protect the members of it up to August 31st in next year.

Cotton Bricks.—The *Charlestown Courier* announces that a process has been discovered by which cotton can be compressed into a solid form, harder than wood, impervious to the elements, fire-proof and water-proof, and capable of use for building purposes, at about one-third the cost of brick.

More Water Fountains.—A very excellent public improvement will shortly be introduced into several of the streets of Leeds, says the *Intelligencer*, namely, the erection of a number of small water-troughs or basins in convenient places, to enable travellers and other persons to refresh themselves with a draught of water. The idea was suggested at a meeting of the Waterworks Committee of the Town Council, by Mr. Brook [auspicious name] as chairman of the committee: a sub-committee was appointed to carry it out, and it has since been determined to erect six basins, made of granite, above each of which is to be placed a ram's head of the same material. Through the mouth a small stream of water, supplied from the pipes in the streets, will run night and day. The basins will each be placed in a niche in a wall near the parish church, Leedsbridge, the Cattle-market (North-street), the Leeds Arms Inn (West-street), Woodhouse Moor, and near the Commercial-buildings, Westbar. There will be an iron ladle to each basin, secured by a chain to the wall. The troughs are now being made at Aberdeen.——The Dewhurst drinking-fountain at Blackburn has been fixed in front of the Market-house, and is now in full operation.——A drinking-fountain is to be erected on the north side of the "Town Clock" at Stourbridge. The Rev. C. Girdlestone has given 10*l*. for its erection.—— When is the metropolis to be studded with such fountains? Old street-pumps are disappearing fast enough, but not much is being done to replace them. At Titchbourne-street, by the way, there is one with an iron ladle absurdly affixed by a few links of a chain near the pavement, and only fit to allow a child of five or six years old conveniently to drink out of it.

[advertisement.]

Self-coiling Convoluted Shutters.—The utility of Revolving Shutters for closing windows and other openings is universally acknowledged; but the cost has hitherto prevented their general adoption. Messrs. CLARK and CO. of 15, Gate-street, Lincoln's-inn, have recently introduced a new Self-coiling Revolving Shutter, which, in addition to being one-half the expense, has the advantage of being remarkably simple, and consequently less liable to get out of order. All the complicated gearing apparatus is dispensed with: there are neither wheels, shafts, rollers, cords, nor weights, to become deranged.

The Patent Self-coiling Shutter is composed of laths in metal or wood, which are connected by bands, or strips of tempered steel, that form the connection between the laths, and also cause them to coil, or roll themselves up into a circular space, above, below, or on either side of the window: grooves are formed in which the ends of the laths slide, and when the shutters are closed, keep the springs straight: the springs also counterbalance the weight of the shutters, which are opened and closed with the greatest facility. We are disposed to think they will be largely used, both for shop-fronts and private houses. Much of the difficulty now often found in providing shutters for large bow windows may be obviated by their use, without extra cost.—*From the Builder, June 26th*, 1858.

TENDERS.

For the Hastings and St. Leonard's new Hotel. Mr. F. H. Fowler, architect. Quantities taken out by Mr. Smither:—

Howell, Hastings	£28,269	0	0
Kirk and Parry	28,257	0	0
Holland and Hannen (accepted)	27,900	0	0
Dove, Bros.	27,500	0	0
Hughes and Hunter	25,738	0	0
Moxon	25,612	0	0

For new premises, for Messrs. Waterlow and Sons, Parliament-street. Messrs. Hunt and Stephenson, architects. Quantities by Messrs. Lansdown and Robinson:—

Lee and Son	£5,908	0	0
Jay	5,676	0	0
Lucas	5,538	0	0
Kelk	5,518	0	0
Mills	5,469	0	0
Piper and Son	5,499	0	0
Mansfield and Son	5,243	0	0
Lawrence (accepted)	4,996	0	0

For building a mansion for Mr. W. Derry, Plymouth. Mr. J. Hine, architect:—

T. Marshall	£3,274	0	0
Roberts	2,988	0	0
Lethbridge	2,780	0	0
Finch	2,728	10	0
Elliott	2,620	0	0
Matcham	2,500	0	0
Call and Pethick (accepted)	2,384	0	0

For five houses at Lee, Kent, for Mr. C. S. Tosswill. Mr. J. Liddiard, architect. Quantities supplied:—

Lewis, Thorne, and Co.	£2,596	16	0
Kent	2,559	0	0
Brown	2,493	0	0
Greswell and Co.	2,444	0	0
Simpson	2,436	0	0
Taylor	2,399	0	0
Cobham	2,351	0	0
Mildwater	2,345	0	0
Smith	2,300	0	0
Hawkins	2,280	0	0
Lennan and Bird	2,225	0	0
Denton	2,197	0	0
Harding	2,155	0	0
Barker	2,035	0	0
Pearson (accepted)	1,948	0	0
Cave	1,845	0	0

For new church, St. Mary's Abbey, Bergholt, Suffolk. Messrs. Hadfield and Goldie, architects. Quantities supplied by Mr. Thomas James:—

Geen	£2,152	0	0
Roper	2,123	0	0
Cornish	1,819	0	0
Simpson	1,755	0	0

For additions to mansion and offices at Tittenhurst Lodge, Sunning-hill, for Mr. Thomas Holloway. Mr. N. E. Stevens, architect:—

Mansfield and Son	£1,248	0	0
Noakes	1,195	0	0
Hollis	1,133	0	0
Dove and Co.	1,095	0	0
Oades and Son (accepted)	1,025	0	0

For a pair of houses, Acton, Middlesex. Mr. Blyth, architect. Quantities not supplied:—

Gadsby	£1,159	0	0
Sewell	995	0	0
Nye	973	0	0
Ring and Stanger	856	0	0

For building a rectory at Bisley, Surrey, for the Rev. F. B. Gourrier. Mr. W. White, architect:—

Loc and Sons	£920	0	0
Oades and Son (accepted)	880	0	0

For alterations and additions to a warehouse, Bread-street, for Messrs. Puzey and Pallett. Messrs. Tillott and Chamberlain, architects. The quantities not supplied:—

Piper and Son	£697	0	0
Ashby and Son	668	0	0
Brass	625	0	0
Anley	598	0	0
Brown and Robinson	575	0	0
Wills	525	0	0
Laurence and Son (accepted)	482	0	0